

Report No.

FIRE SAFETY ANALYSIS OF THE POLAR ICEBREAKER REPLACEMENT DESIGN

VOLUME III - PART I

BY

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protection on the PIR	Engineering Method proved to be . An extensive data base was deve m SFSEM would be very useful in a	loped which will grea					
the analysis which lea	ted in three volumes. Volume I pre ad to them. Volume II presents the ummaries for each compartment an	data necessary to co	induct the analysis, and Volume $\Psi \rightarrow \mathcal{Z}$				
17. Key Words		18. Distribution State	ement				
	fire safety objectives flame movement analysis smoke movement analysis	1					

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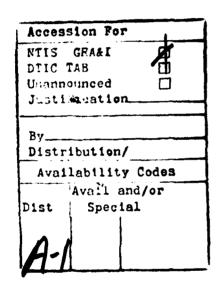
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FIRE SAFETY ANALYSIS OF THE POLAR ICEBREAKER REPLACEMENT DESIGN VOLUME III

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APPENDIX N

PIR Compartment and Barrier Fire Safety Summaries

Appendix N provides a one page summary of detailed information about each compartment considered in the analysis and a one page summary of the barriers enclosing that compartment. They are arranged in numerical order by compartment number. Compartments not analyzed and therefore omitted have use identifiers of F,J,TU,V, and W. Prefacing this information is an alphabetical listing of compartments and their ID's. This reference is included to aid in locating compartments of interest. In the Barrier Fire Safety Summary, each barrier is identified by the number and name of the adjoining compartment.

Glossary

Unacceptable Loss - A rating assigned to each compartment assessing the magnitude of the fire loss needed to cause loss of ship mission capabilities. Assigned values range from 1 (where a fire simply reaching Established Burning in the compartment would threaten mission performance) to 8 (where all compartments of one type lost to fire would be considered unacceptable.)

Frequency closs - The threshold frequency of the unacceptable loss. It is expressed as the number of times the compartment can be lost per ship year.

Frequency of EB - The expected frequency of established burning expressed as the ratio of number of fires anticipated per year. The data is based on historical records of fire casualties.

- I A percentage which represents the probability that the fire will terminate itself
- A A percentage which represents the probability that the fire will be suppressed by an automated system.
- M A percentage which represents the probability that the fire will be suppressed manually (by damage control teams).
- FRI Time The time when the compartment as room of origin reaches Full Room Involvement or Flashover measured from the time it has reached Established Burning.
- Mat ID A code indicating the type of material composing the barrier. Types include:
 - WO Zero strength bulkhead
 - W1 Expanded metal "screening"
 - W2 Nomex honeycomb core panel-plastic laminate both sides
 - Will Nomex honeycomb core panel-stainless steel both sides
 - Nomex honeycomb core panel-plastic laminate & thermal insulation
 - M5 Steel joiner
 - W6 Structural steel
 - U7 Steel joiner with thermal insulation
 - W8 Structural steel with thermal insulation
 - FO Zero strength deck
 - F1 Aluminum grating
 - F2 Steel grating
 - F3 Steel deck
 - F4 Steel deck with poured floor or tile (1/4" thick)
 - CO Zero strength overhead
 - C1 Aluminum grating
 - C2 Steel grating
 - C3 Steel deck
 - C4 Steel overhead with poured floor or tile (1/4" thick)
- D/H The number of doors or hatches in the barrier.
- Thar The propensity for failure of the barrier through a thermal failure. The Thar value, range 0-300, represents the number of 1000's BTU's that the barrier can withstand.
- Dbar The propensity for failure of the barrier through a durability failure. The Dbar value, range 0-300, represents the number of 1000's BTU's that the barrier can withstand.
- % Heat Rel The percentage of residual heat which would be transferred from one room to the next if the barrier has a durability failure:

Compartment: 01-100-0-LL WARDROOM & LOUNGE

USE: LL Lounge areas

AREA: 1182 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 11,824 cu.ft.

UNACCEPTABLE LOSS: Code 4 (2 compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0006

FUEL LOAD: 24,800 BTUs/sq.ft.

From Lounge Burnout Rpt. 000278

UENTILATION: 2,956 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 800 sq.in. UENT HEIGHT: 90 in.

ı I FIRE STARTED DUE TO: FRI A 1 Time 1 20 10 0 30 Fire Origin 10 0 40 l 15 Thar Failure Dbar Failure - 1 5 * ٥ a

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 10% of time in port and 40% of time at sea.

Automatic:

Rate of temperature rise detection system (RR) Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

2 Hand portable monoammonium phosphate fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-100-0-LL WARDROOM & LOUNGE

Barri (Odicining Co	iers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat
	ompto to did indino						
01-100-1-TS	STAIRCASE	W6	0	20.0	10	100	5
01-100-1-TS	STAIRCASE	W 5	0	145.0	5	80	5
01-100-2-LP	PASSAGE	W2	0	180.0	25	40	30
01-100-2-LP	PASSAGE	ω2	1	413.0	25	40	30
01-114-1-LP	PASSAGE	W2	1	115.0	25	40	30
01-126-1-Q	OFFICER PANTRY	W3	1	113.0	25	60	25
01-126-1-Q	OFFICER PANTRY	ผ3	0	180 .0	2 5	60	25
01-138-1-T	DUMB WAITER	W5	0	40.0	5	80	5
1-100-0-LP	PASSAGE	F3	0	229.0	25	300	5
1-105-0-Q	GALLEY	F 3	0	881.4	25	300	5
1-119-1-Q	SCULLERY	F3	0	72 .0	25	300	5
02-100-1-LL	CO LOUNGE	C3	0	397.4	10	100	5
02-100-2-L	CO CABIN	C3	0	313.2	10	100	5
02-120-2-L	OFFICER SR	C3	0	288.9	10	100	5
02-129-1-Q	PANTRY	C3	0	36.0	10	100	5
02-132-2-LW	WR WC & SHR	C3	0	58.5	10	100	5

Compartment: 01-100-1-TS STAIRCASE

.

USE: TS Staircases

AREA: 87 sg.ft. DECK HEIGHT: 10.0 ft. VOLUME: 870 cq.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0601

FUEL LOAD: 3,200 BTUs/sq.ft.

Paint, cable insulation laminate on blkhds-no dropped ceiling

UENTILATION: 174 cu ft/min EXCHANGE TIME: 5.0 min.

UENT AREA: 10 sg.in. UENT HEIGHT: 1 in.

FIRE STARTED DUE TO: I FRI Α Time Fire Origin 1 100 999 0 30 Thar Failure i 100 999 0 40 Dbar Failure 40 * O 0 * calculated as (100 - % Heat Release)/100 X

* calculated as (100 - % Heat Release)/100 × FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 30% of time in port and 50% of time at sea.

Automatic:

Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-100-1-TS STAIRCASE

Barra (Adjoining C	iers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-100-0-LL 01-100-0-LL 01-100-3-L 01-114-1-LP 1-100-1-TS 02-100-3-TS	WARDROOM & LOUNGE WARDROOM & LOUNGE OFFICER SR PASSAGE STAIRCASE STAIRCASE	W6 W5 W5 W6 F3 C3	0 0 0 1 1	20.0 145.0 145.0 40.0 87.0 71.4	10 5 5 10 25 10	100 80 80 100 300	5 5 5 5 5 5

Compartment: 01-100-2-LP PASSAGE

Zero strength barrier adjacent.

USE: LP Passageways

AREA: 446 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 4,462 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0001

FUEL LOAD: 3,200 BTUs/sq.ft.

Paint, cable insulation laminate on blkhds-no dropped ceiling

UENTILATION: 892 cu ft/min EXCHANGE TIME: UENT AREA: 500 sq.in. UENT HEIGHT: 12 in.

UENT AREA: 500 sq.in.

FIRE STARTED DUE TO:	1	I	FRI Time	A	M
Fire Origin Thar Failure	 	95 80	20 20	0	40 60
Dbar Failure	1	40	*	0	υ

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 30% of time in port and 50% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-100-2-LP PASSAGE

Barriers (Adjoining Compts ID and Na			D/H 	Area sq.f			Dbar	*heat rel
01-100-0-LL WARDROOM & LO	OUNGE W2	<u>:</u>	0	180.	0	25	40	30
01-100-0-LL WARDROOM & LO	UNGE W2	1	1	413.	ũ	25	40	30
01-100-4-L CPO BERTHING	₩2	2	1	50.	0	25	40	30
01-106-2-LW WR WC & SHR	W3	;	0	80.	0	25	60	25
01-113-2-L CPO BERTHING	₩2	?	1	30.	0	25	40	30
01-114-1-LP PASSAGE	wo		0	40.	0	0	0	100
01-117-2-LW WR WC & SHR	ωз	3	0	90.	0	2 5	60	25
01-125-2-LW WR WC & SHR	W3		0	80.	0	25	60	25
01-125-4-L CPO BERTHING	W2		1	40.			40	30
01-125-4-L CPO BERTHING	W6		0	180.	0	10	100	5
01-142-2-L CPO BERTHING	W2	?	1	105.			40	30
01-142-2-L CPO BERTHING	W2	!	0	140.			40	30
01-145-0-TU UPTAKE 1	B		. 0	43.	0	80	100	5
01-145-0-TU UPTAKE 1	ω 8	1	0	160.	0		100	5
01-145-2-TS STAIRCASE	ω 5	j	0	60.	0	5	80	5
01-145-2-TS STAIRCASE	W 5	i	0	60.	0	5	80	5
01-145-2-TS STAIRCASE	ພຣ	i	0	117.	0	5	80	5
01-154-2-LW WR WC & SHR	ωз	;	0	90.	0	25	60	25
01-162-2-LP PASSAGE	W6	;	1	80.	0	10	100	5
01-162-4-LW WR WC & SHR	W6		0	20.	0	10	100	5
1-100-0-LP PASSAGE	F3	}	0	25 .	1	25	300	5
1-100-2-LP PASSAGE	F3	}	0	97.	2	25	300	5
1-105-0-Q GALLEY	F3	3	0	228.	1	25	300	5
1-124-2-LL CPO MESSROOM	& LOUNGE F3	;	0	70.	0	25	300	5
1-145-2-TS STAIRCASE	F3	}	0	25 .	8	25	300	5
02-100-2-L CO CABIN	C3		0	69.	6	10	100	5
02-121-2-LP PASSAGE	C3	}	0	253 .	2	10	100	5
02-136-2-LW WR WC & SHR	C3		0	34.	4	10	100	5
02-136-4-L OFFICER SR	C3	}	0	52.	8	10	100	5
02-145-2-TS STAIRCASE	C3		0	1.	8	10	100	5
02-158-2-A GEAR LOCKER	C3	1	0	24.	n	10	100	5

Compartment: 01-100-3-L OFFICER SR

USE: L2 Berthing Space for 2

AREA: 257 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 2,575 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 13,115 BTUs/sq.ft. No. of people x 200/compt.area

UENTILATION: 515 cd ft/min EXCHANGE TIME: 5.0 min. UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

UENT AREA: 175 sq.in.

FIRE STARTED DUE TO: I FRI A Time 1 20 5 0 30 Fire Origin Thar Failure
Dhar Failure 1 15 5 0 40 5 * C 0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I) Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable monoammonium phosphate fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-100-3-L OFFICER SR

Barri (Adjoining Co	ers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-100-1-TS 01-111-1-LW 01-111-1-LW 01-111-1-LW 01-114-1-LP 01-118-1-LW 01-118-3-L 1-100-3-LP	STAIRCASE WR WC & SHR WR WC & SHR WR WC & SHR PASSAGE WR WC & SHR OFFICER SR PASSAGE	W5 W3 W3 W6 W2 W3 W2 F3	0 0 0 1 1 0 0	145.0 70.0 70.0 95.0 35.0 30.0 55.0	5 25 25 10 25 25 25	80 60 60 100 40 60 40	5 25 25 5 30 25 30
1-100-5-LL 02-100-5-L	CREW MESS Chief Scientist Sr	F3 C3	0 0	192.5 210.7	25 10	300 100	5 5

Compartment: 01-100-4-L CPO BERTHING

£

USE: L2 Berthing Space for 2

AREA: 186 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 1,860 cq.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 32,800 BTUs/sq.ft.

From CPO Berthing Compartment Tests, MFRB 000134

UENTILATION: 372 cu ft/min EXCHANGE TIME: 5.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: 1 I FRI 1 Time Fire Origin I 15 3 0 30 1 10 Thar Failure 3 0 40 Dbar Failure **★** 0 l 5 0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I)
Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable monoammonium phosphate fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-100-4-L CPO BERTHING

Barr: (Adjoining Co	iers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-100-2-LP	PASSAGE	พ2	1	50.0	25	40	30
01-106-2-LW	WR WC & SHR	ผ6	1	60.0	10	100	5
01-106-2-LW	WR WC & SHR	พ3	0	80.0	25	60	25
01-113-2-L	CPO BERTHING	พ2		120.0	25	40	30
1-100-2-LP	Passage	F3	0	20.0	25	300	5
1-100-4-LW	Wr & Shr	F3	0	26.0	25	300	5
1-100-6-Q	SHIP LIBRARY	F3	0	140.0	25	300	5
02-100-4-L	CO SR	C3		139.2	10	100	5
			2				

Compartment: 01-106-2-LW WR WC & SHR

USE: LW Wash room, water closet and shower areas

AREA: 48 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 480 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 120 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-106-2-LW WR WC & SHR

Barr (Adjoining Co	iers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat
01-100-2-LP	PASSAGE	WЗ	0	80.0	25	60	25
01-100-4-L	CPO BERTHING	W6	1	60.0	10	100	5
01-100-4-L	CPO BERTHING	WЗ	0	80.0	25	60	25
01-113-2-L	CPO BERTHING	ωз	0	60.0	25	60	25
1-100-2-LP	PASSAGE	F3	0	32.0	25	300	5
1-100-6-Q	SHIP LIBRARY	F3	0	16.0	25	300	5
02-100-4-L	CO SR	C3	0	48.0	10	100	5

Compartment: 01-111-1-LW WR WC & SHR

•

USE: LW Wash room, water closet and shower areas

AREA: 66 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 665 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 166 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: | I FRI A M Time

Fire Origin | 100 999 0 30
Thar Failure | 100 999 0 40
Dbar Failure | 35 * 0 0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-111-1-LW WR WC & SHR

Barr		– .	D∕H	Area-	Tbar	Dbar	Sheat
(Adjoining Co	ompts ID and Name)	ID		sq.ft.	25 60 25 60 10 100 25 60 25 60 25 300	rel	
01-100-3-L	OFFICER SR	WЗ	0	20.0	25	60	25
01-100-3-L	OFFICER SR	ωз	0	70 .0	25	60	25
01-100-3-L	OFFICER SR	W6	1	9 5 .0	10	100	5
01-118-1-LW	WR WC & SHR	WЗ	G	50.0	25	60	25
01-118-3-L	OFFICER SR	ωз	0	45.0	25	60	25
1-100-3-LP	PASSAGE	F3	0	フ、0	25	300	5
1-100-5-LL	CREW MESS	F3	0	59.5	2 5	300	5
02-100-5-L	CHIEF SCIENTIST SR	C3	0	46.5	10	100	5
02-116-1-LW	WR WC & SHR	C3	0	20.0	10	100	5
			1				

Compartment: 01-113-2-L CPO BERTHING

USE: L2 Berthing Space for 2

AREA: 162 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 1,620 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 32,800 BTUs/sq.ft.

From CPO Berthing Compartment Tests, MFRB 000134

UENTILATION: 324 cu ft/min EXCHANGE TIME: 5.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO:	1	I	FRI Time	А	М
Fire Origin		15	3	0	30
Tbar Failure	1	10	3	0	40
Dhar Failure	1	5	*	Ω	ก

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I)
Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable monoammonium phosphate fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-113-2-L CPO BERTHING

Barrie (Adjoining Com	ers mpts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-100-2-LP 01-100-4-L 01-106-2-LW 01-117-2-LW 01-117-2-LW 01-125-4-L 1-100-2-LP 1-100-6-Q 1-124-2-LL 02-100-4-L 02-113-2-LW 02-120-4-LW	PASSAGE CPO BERTHING WR WC & SHR WR WC & SHR WR WC & SHR CPO BERTHING PASSAGE SHIP LIBRARY CPO MESSROOM & LOUNGE CO SR WR WC & SHR WR WC & SHR	W2 W2 W3 W3 W3 W2 F3 F3 C3	1 0 0 1 0 0 0 0 0	30.0 120.0 60.0 90.0 120.0 12.0 138.0 12.0 63.0 39.0	25 25 25 25 25 25 25 25 25 10 10	40 60 60 40 300 300 300	30 30 25 25 25 30 5 5 5
02-120-6-L	UISITOR SR	C3	. 0	45.0	10	100	,

Compartment: 01-114-1-LP PASSAGE

Zero strength barrier adjacent.

USE: LP Passageways

AREA: 377 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 3,774 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0001

FUEL LOAD: 3,200 BTUs/sq.ft.

Paint, cable insulation laminate on blkhds-no dropped ceiling

754 cu ft/min EXCHANGE TIME: UENTILATION: 5.0 min.

UENT AREA: 1000 sq.in. UENT HEIGHT: 12 in.

FIRE STARTED DUE TO:	1	I	FRI Time	A	M
Fire Origin	1	95	20	0	40
Thar Failure	1	8 0	20	0	60
Dbar Failure	i	40	*	0	0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 30% of time in port and 50% of time at sea.

Automatic:

Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-114-1-LP PASSAGE

Barri (Adjoining Co	ers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-100-0-LL	WARDROOM & LOUNGE	W2		115.0			30
01-100-1-TS	STAIRCASE	₩6	1	40.0			5
01-100-2-LP		ωo	0	40.0	0	0	100
01-100-3-L	OFFICER SR	W 2	1	35.0		40	30
01-118-1-LW	WR WC & SHR	W3		50.0			2 5
01-118-3-L		W2	1	8 5 .0	25	40	30
01-126-1-Q	OFFICER PANTRY	WЗ	0	140.0	25	60	25
01-126-1-Q	OFFICER PANTRY	W3	1	153.0	25	60	25
01-132-1-LW	WR WC & SHR	WЗ	0	55.0	25	60	25
01-132-3-L	OFFICER SR	W 2	1	43.0	25	40	30
01-132-3-L		W2	0	180.0	25	40	3 0
01-138-1-T		W5	0	4 0. 0	5	80	5
01-145-0-TU	UPTAKE 1	ហទ	· 0	7 7 .0	80	100	5
01-145-0-TU		ພອ	0	160.0	80	100	5
01-146-1-LW	WR WC & SHR	W3	0	60.0	25	60	25
01-146-1-LW	WR WC & SHR	W3	0	77.0	25	60	25
01-146-3-L	OFFICER SR	W2	0	8 0 .0	25	40	30
01-146-3-L	OFFICER SR	W 2	1	83.0	25	40	30
01-153-1-A		W2	0	60.0	25	40	30
01-153-1-A		W2	1	83.0	25		30
01-162-3-LP	PASSAGE	ພຣ	1	40.0	10	100	5
1-100-0-LP	PASSAGE	F 3	0	14.0	25	300	5
1-100-3-LP		F3	0	80.0			5
1-100-5-LL		F3	Ō	56.0			5
1-119-1-Q		F3	0	56.0			5 5
1-132-1-0	INCINERATOR ROOM	F3	Ō	125.2			5
1-145-1-T	MACHINERY HOIST ROOM	F3	Ö	46.2	25		5
02-115-1-LP	PASSAGE	C3	Ö	275.2	10		5
02-115-1-LP 02-136-3-L	OFFICER SR	C3	Õ	56.0		100	5
02-145-1-A	STOREROOM	C3	ő	46.2	10	100	5
					_ •		_

Compartment: 01-117-2-LW WR WC & SHR

USE: LW Wash room, water closet and shower areas

AREA: 54 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 540 cq.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 135 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: | I FRI A M | Time | Tome | 100 999 0 30 | Thar Failure | 100 999 0 40 | Dhar Failure | 35 * 0 0 | * calculated as (100 - % Heat Release)/100 ×

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-117-2-LW WR WC & SHR

Barr: (Adjoining Co	iers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-100-2-LP	PASSAGE	M3	0	90.0	25	60	25
01-113-2-L 01-113-2-L	CPO BERTHING CPO BERTHING	พ3 พ3	0	60.0 90.0	25 25	60 60	25 25
01-125-2-LW 1-100-2-LP	WR WC & SHR PASSAGE	₩3 F 3	0 0	60.0 36.0	25 25	60 300	25 5
1-100-6-Q	SHIP LIBRARY CPO MESSROOM & LOUNGE	F3	0	16.0	25 25	300	5 5
1-124-2-LL 02-113-2-LW	CPO MESSROOM & LOUNGE WR WC & SHR	F3 C3	0 0	2.0 24.0	10	300 100	5 5
02-120-4-LW	WR WC & SHR	C3	0	30.0	10	100	5
			1				

Compartment: 01-118-1-LW WR WC & SHR

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USE: LW Wash room, water closet and shower areas

AREA: 40 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 400 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 100 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-118-1-LW WR WC & SHR

Barr (Adjoining C	iers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-100-3-L 01-111-1-LW 01-114-1-LP	OFFICER SR WR WC & SHR PASSAGE	พ <i>3</i> พ <i>3</i> พ3	0 0 0	30.0 50.0 50.0	25 25 25	60 60 60	25 25 25
01-118-3-L 01-118-3-L	OFFICER SR OFFICER SR	₩3 ₩3	0 1	50.0 80.0	25 25 25	60 60	25 25
1-100-3-LP 1-100-5-LL 02-100-5-L	PASSAGE CREW MESS CHIEF SCIENTIST SR	F3 F3 C3	0 0 0	20.0 20.0 14.0	25 25 10	300 300 100	5 5 5
02-116-1-LW 02-122-1-LW	WR WC & SHR WR WC & SHR	C3	0	14.0 12.0	10	100	5

Compartment: 01-118-3-L OFFICER SR

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USE: L2 Berthing Space for 2

AREA: 203 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 2,030 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 16,032 BTUs/sq.ft.
No. of people x 200/compt.area

UENTILATION: 406 cu ft/min EXCHANGE TIME: 5.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: I FRI А Time 1 1 20 5 0 30 Fire Origin 15 Thar Failure 5 0 40 - 1 Dbar Failure 5 0 0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I)

Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable monoammonium phosphate fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-118-3-L OFFICER SR

Barriers (Adjoining Compts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-100-3-L OFFICER SR 01-111-1-LW WR WC & SHR 01-114-1-LP PASSAGE 01-118-1-LW WR WC & SHR 01-118-1-LW WR WC & SHR 01-132-1-LW WR WC & SHR 01-132-3-L OFFICER SR 1-100-3-LP PASSAGE 1-100-5-LL CREW MESS 02-100-5-L CHIEF SCIENTIST SR 02-116-1-LW WR WC & SHR 02-122-1-LW WR WC & SHR 02-122-3-L OFFICER SR	₩2 ₩3 ₩3 ₩3 ₩3 ₩3 ₩2 F3 C3 C3	0 0 1 0 1 0 0 0 0	55.0 45.0 85.0 50.0 80.0 60.0 120.0 34.0 169.0 21.0 14.0 46.5	25 25 25 25 25 25 25 25 25 10 10	60 40 60 60 60 40 300	30 25 30 25 25 25 30 5 5 5

Compartment: 01-125-2-LW WR WC & SHR

USE: LW Wash room, water closet and shower areas

AREA: 48 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 480 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 120 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: | I FRI A M | Time | | 100 999 0 30 | | Than Failure | 100 999 0 40 | | Dhan Failure | 35 * 0 0 | | * calculated as (100 - % Heat Release)/

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-125-2-LW WR WC & SHR

Barri (Adjoining Co	ers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-100-2-LP 01-117-2-LW 01-125-4-L 01-125-4-L 1-100-2-LP 1-124-2-LL 02-120-4-LW 02-120-6-L	PASSAGE WR WC & SHR CPO BERTHING CPO BERTHING PASSAGE CPO MESSROOM & LOUNGE WR WC & SHR VISITOR SR	W3 W3 W3 F3 F3 C3	0 0 1 0 0 0	80.0 60.0 80.0 32.0 16.0 12.0 36.0	25 25 25 25 25 25 10	60 60 60 300 300 100	25 25 25 25 5 5 5

Compartment: 01-125-4-L CPO BERTHING

USE: L2 Berthing Space for 2

AREA: 168 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 1,680 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 32,800 BTUs/sq.ft.

From CPO Berthing Compartment Tests, MFRB 000134

UENTILATION: 336 cu ft/min EXCHANGE TIME: 5.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I)

Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable monoammonium phosphate fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment:	01-125-4-L	CPO BERTHING
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	riers Compts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-100-2-LP 01-100-2-LP 01-113-2-L 01-125-2-LW 01-125-2-LW 1-100-2-LP 1-124-2-LL 02-120-4-LW 02-120-6-L 02-136-2-LW	PASSAGE CPO BERTHING WR WC & SHR WR WC & SHR PASSAGE CPO MESSROOM & LOUNGE WR WC & SHR UISITOR SR WR WC & SHR	W2 W6 W3 W3 F3 F3 C3	1 0 0 1 0 0 0	40.0 180.0 120.0 60.0 80.0 16.0 152.0 6.0 144.0	25 10 25 25 25 25 25 25 10	40 100 40 60 300 300 100	30 5 30 25 25 5 5 5
02-136-4-L	OFFICER SR	C3	0	_	1.0		

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Compartment: 01-126-1-Q OFFICER PANTRY

MCE: O Owese neuelly appropried: engineering electronics galleus

USE: Q Areas usually unoccupied: engineering, electronics, galleys

AREA: 259 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 2,594 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 1.0000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0021

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 6,485 cu ft/min EXCHANGE TIME: 0.4 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FRI FIRE STARTED DUE TO: 1 I į. Time 1 90 6 0 20 Fire Origin 1 70 Thar Failure 6 0 40 Dbar Failure 50 ***** 0 0 ı * calculated as (100 - % Heat Release)/100 X

* calculated as (100 - % Heat Release)/100 × FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 30% of time in port and 60% of time at sea.

Automatic:

Rate of temperature rise detection system (RR) Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable carbon dioxide fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-126-1-Q OFFICER PANTRY

							
Barri (Adjoining Co	ers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-100-0-LL 01-100-0-LL 01-114-1-LP 01-114-1-LP 01-138-1-T 01-138-1-T 1-105-0-Q 1-119-1-Q 1-132-1-Q 02-100-1-LL 02-129-1-Q	WARDROOM & LOUNGE WARDROOM & LOUNGE PASSAGE PASSAGE DUMB WAITER DUMB WAITER GALLEY SCULLERY INCINERATOR ROOM CO LOUNGE PANTRY	93 93 93 95 95 F3 F3 C3	1 0 0 1 0 1 0 0	113.0 180.0 140.0 153.0 40.0 40.0 75.2 54.0 130.2 59.4 200.0	25 25 25 25 5 25 25 25 25	60 60 60 30 300 300 300 100	25 25 25 25 5 5 5 5
~						200	,

Compartment: 01-132-1-LW WR WC & SHR

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USE: LW Wash room, water closet and shower areas

AREA: 33 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 330 cq.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 82 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: | I FRI A M | Time

Fire Origin | 100 999 0 30
Thar Failure | 100 999 0 40
Dbar Failure | 35 * 0 0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-132-1-LW UR UC & SHR

Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
W3 W3 W3 F3 F3 C3	0 0 1 0 0 0	55.0 60.0 55.0 60.0 22.0 11.0 27.0 6.0	25 25 25 25 25 25 10	60 60 60 300 300 100	25 25 25 25 5 5 5
	ID W3 W3 W3 F3 F3 C3	W3 0 W3 0 W3 1 W3 0 F3 0 F3 0	U3 0 55.0 W3 0 60.0 W3 1 55.0 W3 0 60.0 F3 0 22.0 F3 0 11.0 C3 0 27.0	U3 0 55.0 25 U3 0 60.0 25 U3 1 55.0 25 U3 0 60.0 25 F3 0 22.0 25 F3 0 11.0 25 C3 0 27.0 10	U3 0 55.0 25 60 W3 0 60.0 25 60 W3 1 55.0 25 60 W3 0 60.0 25 60 W3 0 60.0 25 60 F3 0 22.0 25 300 F3 0 11.0 25 300 C3 0 27.0 10 100

Compartment: 01-132-3-L OFFICER SR

USE: L2 Berthing Space for 2

AREA: 143 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 1,434 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 13,223 BTUs/sq.ft.
No. of people x 200/compt.area

UENTILATION: 286 cu ft/min EXCHANGE TIME: 5.0 min.

VENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: I FRI 1 Time 1 20 Fire Origin 5 0 30 Thar Failure 15 5 0 40 . . Dbar Failure 5 * C Ω * calculated as (100 ~ % Heat Release)/100 X

calculated as (100 ~ % Heat Release)/100 imes FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I)
Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable monoammonium phosphate fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-132-3-L OFFICER SR

Barr (Adjoining Co	iers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-114-1-LP 01-114-1-LP	PASSAGE PASSAGE	ພ2 ພ2	1 0	43.0 180.0	25 25	40 40	30 30
01-118-3-L 01-132-1-LW 01-132-1-LW	OFFICER SR WR WC & SHR WR WC & SHR	₩2 ₩3	0 1	120.0 55.0	25 25	40 60	30 25
1-100-3-LP 1-100-5-LL	PASSAGE CREW MESS	W3 F3 F3	0 0 0	60.0 17.2 126.2	25 25 25	60 300 300	25 5 5
02-122-3-L 02-136-1-LW	OFFICER SR WR WC & SHR	C3 C3	ů	54.0 36.4	10 10	100	5 5
02-136-3-L	OFFICER SR	C3	0	53.0	10	100	5

Compartment: 01-138-1-T DUMB WAITER

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USE: T Elevators, dumb waiters

AREA: 16 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 160 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 1,0000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0001

FUEL LOAD: 4,000 BTUs/sq.ft.

Accumulated dust and grease and cable insulation

UENTILATION: 80 cu ft/min EXCHANGE TIME: 2.0 min.

UENT AREA: 10 sq.in. UENT HEIGHT: 1 in.

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 5% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-138-1-T DUMB WAITER

Barriers (Adjoining Compts ID and Name)		Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-100-0-LL 01-114-1-LP 01-126-1-Q 01-126-1-Q 1-138-1-T 02-138-1-T	WARDROOM & LOUNGE PASSAGE OFFICER PANTRY OFFICER PANTRY DUMB WAITER DUMB WAITER	ա5 ա5 ա5 ա5 F3 C3	0 0 0 1 0	40.0 40.0 40.0 40.0 15.2 15.2	5 5 5 25 10	80 80 80 80 300	555555

Compartment: 01-142-2-L CPO BERTHING

USE: L4 Berthing Space for 4

AREA: 224 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 2,244 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 18,367 BTUs/sq.ft.

No. of people x 160/compartment area

VENTILATION: 280 cu ft/min EXCHANGE TIME: 8.0 min.

UENT AREA: 225 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO:	1 1	I	FRI Time	Α	М
Fire Origin	1	10	3	0	30
Thar Failure	1	5	3	0	40
Dbar Failure	i	0	*	0	0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

Ionization smoke detection system (I) Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable monoammonium phosphate fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-142-2-L CPO BERTHING

Barr: (Adjoining Co	iers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat
01-100-2-LP 01-100-2-LP 01-154-2-LW 01-154-2-LW 01-162-6-L 1-124-2-LL 02-136-4-L	PASSAGE PASSAGE WR WC & SHR WR WC & SHR CPO BERTHING CPO MESSROOM & LOUNGE OFFICER SR	W2 W2 W3 W3 W6 F3	1 0 0 1 0	105.0 140.0 52.0 88.0 88.0 224.4	25 25 25 25 25 10 25	40 40 60 60 100 300	30 30 25 25 5 5
02-148-2-L 02-152-2-LW	OFFICER SR WR WC & SHR	C3	ů O	114.1 26.3	10 10	100	5 5
			 2				

Compartment: 01-145-2-TS STAIRCASE

USE: TS Staircases

AREA: 70 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 702 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0001

FUEL LOAD: 800 BTUs/sq.ft. Paint-no carpet or laminate

UENTILATION: 140 cu ft/min EXCHANGE TIME: 5.0 min.

UENT AREA: 10 sq.in. UENT HEIGHT: 1 in.

FIRE STARTED DUE TO: | I FRI A M | Time | | 100 999 0 30 | | Thar Failure | 100 999 0 40 | | Dhar Failure | 90 * 0 0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 30% of time in port and 50% of time at sea. Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-145-2-TS STAIRCASE

Barri (Adjoining Co	ers mpts ID and Name)	Mat ID	D/H	Area-	Tbar	Dbar	%heat rel
01-100-2-LP 01-100-2-LP 01-100-2-LP 01-145-0-TU 1-145-2-TS 02-145-2-TS	PASSAGE PASSAGE PASSAGE UPTAKE 1 STAIRCASE STAIRCASE	W5 W5 W5 W8 F3 C3	0 0 0 0 1	60.0 60.0 117.0 117.0 70.2 70.2	5 5 80 25 10	80 80 80 100 300	5 5 5 5 5 5 5

Compartment: 01-146-1-LW WR WC & SHR

USE: LW Wash room, water closet and shower areas

46 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 462 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 0 BTUs/sq.ft.

UENTILATION: 115 cu ft/min EXCHANGE TIME: 4.0 min.

UENT HEIGHT: 90 in. UENT AREA: 175 sq.in.

I FRI A FIRE STARTED DUE TO: M Time l 100 999 0 30 Fire Origin Thar Failure 1 100 999 0 40 Dbar Failure 1 35 * 0 0 * calculated as (100 - % Heat Release)/100 X

FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea. Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-146-1-LW WR WC & SHR

ID	D⁄H 	Area- sq.ft.	Tbar	Dbar	%heat rel
W3 W3 W3 F3 C3	0 0 1 0 0 0	60.0 27.0 60.0 27.0 46.2 10.2 36.0	25 25 25 25 25 25 10	60 60 60 300 100	25 25 25 25 25 5 5
	W3 W3 W3 W3 F3 C3	W3 0 W3 0 W3 1 W3 0 F3 0 C3 0	W3 0 60.0 W3 0 77.0 W3 1 60.0 W3 0 77.0 F3 0 46.2 C3 0 10.2	U3 0 60.0 25 W3 0 77.0 25 W3 1 60.0 25 W3 0 77.0 25 F3 0 46.2 25 C3 0 10.2 10	ID sq.ft. W3 0 60.0 25 60 W3 0 77.0 25 60 W3 1 60.0 25 60 W3 0 77.0 25 60 W3 0 77.0 25 60 F3 0 46.2 25 300 C3 0 10.2 10 100

Compartment: 01-146-3-L OFFICER SR

USE: L Living quarters/medical/dental areas

AREA: 177 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 1,778 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 1.0000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 20,000 BTUs/sq.ft.

UENTILATION: 355 cu ft/min EXCHANGE TIME: 5.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: I FRI ı 1 Time Fire Origin 1 20 5 0 30 Thar Failure 1 15 5 0 40 Dbar Failure 5 1

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 35% of time at sea.

Automatic:

Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable monoammonium phosphate fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment:	01-146-3-L	OFFICER SR
COMPAT CHIEFLE	01-140-1-1	

Barr: (Adjoining Co	iers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-114-1-LP 01-114-1-LP 01-146-1-LW 01-146-1-LW 01-162-5-A 1-100-5-LL 02-136-3-L 02-146-1-L	PASSAGE PASSAGE WR WC & SHR WR WC & SHR ARCTIC GEAR LOCKEROFFIC CREW MESS OFFICER SR OFFICER SR WR WC & SHR	W2 W2 W3 W3 W6 F3 C3	0 1 1 0 0 0	80.0 83.0 60.0 77.0 140.0 177.8 13.6 113.1	25 25 25 25 10 25 10	40 40 60 60 100 300 100 100	30 30 25 25 5 5

Compartment: 01-153-1-A STOREROOM

USE: AS Storerooms

AREA: 49 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 498 cu.ft.

UNACCEPTABLE LOSS: Code 4 (2 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.3300 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0009

FUEL LOAD: 1,600,000 BTUs/sq.ft.

Boxes of flammable stores -- Fuel load in psf = 20 x height of deck

UENTILATION: 49 cu ft/min EXCHANGE TIME: 10.0 min.

UENT AREA: 10 sq.in. UENT HEIGHT: 1 in.

FIRE STARTED DUE TO:		1	I	FRI Time	A	М
Fire Origin			30	3	0	30
Tbar Failure		1	20	3		20
Dbar Failure		1	10	*	0	O
*	calculated	as	(100	- % I	deat	Release)/

* calculated as $(100 - \% \text{ Heat Release})/100 \times FRI$ Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 5% of time at sea.

Automatic:

Rate of temperature rise detection system (RR) Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-153-1-A STOREROOM

Barr (Adjoining C	iers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-114-1-LP	PASSAGE PASSAGE UPTAKE 1 STAIRCASE MACHINERY HOIST ROOM STOREROOM STOREROOM	W2	0	60.0	25	40	30
01-114-1-LP		W2	1	83.0	25	40	30
01-145-0-TU		W8	0	83.0	80	100	5
01-162-1-TS		W6	0	60.0	10	100	5
1-145-1-T		F3	0	1.8	25	300	5
1-154-1-A		F3	0	48.0	25	300	5

Compartment: 01-154-2-LW WR WC & SHR

*

USE: LW Wash room, water closet and shower areas

AREA: 45 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 458 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 114 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

* calculated as (100 - % Heat Release)/100 > FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-154-2-LW WR WC & SHR

Barr: (Adjoining Co	iers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-100-2-LP 01-142-2-L 01-142-2-L 01-162-4-LW 01-162-6-L 1-124-2-LL 02-152-2-LW	PASSAGE CPO BERTHING CPO BERTHING WR WC & SHR CPO BERTHING CPO MESSROOM & LOUNGE WR WC & SHR	W3 W3 W6 W6 F3 C3	0 0 1 0 0	90.0 52.0 88.0 30.0 22.0 46.8 46.8	25 25 25 10 10 25	60 60 100 100 300	25 25 25 5 5

Compartment: 01-162-1-TS STAIRCASE

USE: TS Staircases

AREA: 96 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 960 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0001

FUEL LOAD: 800 BTUs/sq.ft. Paint-no carpet or laminate

UENTILATION: 192 cu ft/min EXCHANGE TIME: 5.0 min.

UENT HEIGHT: 1 in. UENT AREA: 10 sq.in.

FIRE STARTED DUE TO: I FRI A 1 Time 1 100 999 0 30 Fire Origin 1 100 999 0 40 Tbar Failure Dbar Failure 90 **★** () 0 1 * calculated as (100 - % Heat Release)/100 X

FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 30% of time in port and 50% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment:	01-162-1-TS	STAIRCASE					
Barr: (Adjoining C	iers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-153-1-A 01-162-0-TU 01-162-3-LP 01-162-3-LP	STOREROOM UPTAKE 2 PASSAGE PASSAGE	ພຣ ພຣ ພຣ ພຣ	0 0 0 1	60.0 127.0 60.0 127.0	10 80 5 5	100 100 80 80	5 5 5 5
1-162-1-TS STAIRCASE 02-162-1-TS STAIRCASE	STAIRCASE	F3 C3	1 1	76.2 76.2	25 10	300 100	5 5
			3				

Compartment: 01-162-2-LP PASSAGE

USE: LP Passageways

AREA: 196 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 1,968 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.8001

FUEL LOAD: 3,200 BTUs/sq.ft.

Paint, cable insulation laminate on blkhds-no dropped ceiling

393 cu ft∕min EXCHANGE TIME: 5.0 min. UENTILATION:

UENT HEIGHT: 12 in. UENT AREA: 250 sq.in.

FIRE STARTED DUE TO:	1	I	FRI Time	A	M	
Fire Origin	1	95	20	0	40	
Thar Failure	1	80	20	0	60	
Dbar Failure	+	40	*	0	0	
					Release)/1	

FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 30% of time in port and 50% of time at sea.

Automatic:

Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-162-2-LP PASSAGE

Barr: (Adjoining Co	iers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-100-2-LP	PASSAGE	W6	1	80.0	10	100	5 5
01-162-0-TU 01-162-4-LW	UPTAKE 2 WR WC & SHR	M3 M8	0	160.0 77.0	80 25	100	25
01-162-6-L 01-162-6-L	CPO BERTHING CPO BERTHING	₩2 ₩2	0	40.0 160.0	25 25	40 40	30 30
01-178-0-W 01-178-2-W	ROLL STAB TANK CROSS DUCK ROLL STABILIZATION TANK	₩6	0	40.0 140.0	10	100	5 5
1-162-2-LP 1-162-4-Q	PASSAGE SHIP STORE	F3 F3	0	95.4 51.6	25 25	300	5 5
1-169-2-T 02-121-2-LP	MACHINERY HOIST ROOM PASSAGE	F3 C3	0	49.8 40.6	25 10	300 100	5 5
02-162-2-A 02-162-6-L	STOREROOM OFFICER SR	C3	0 0	96.0 60.2	10 10	100 100	5 5

Compartment: 01-162-3-LP PASSAGE

USE: LP Passageways

AREA: 144 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 1,440 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0001

FUEL LOAD: 3,200 BTUs/sq.ft.

Paint, cable insulation laminate on blkhds-no dropped ceiling

UENTILATION: 288 cu ft/min EXCHANGE TIME: 5.0 min.

UENT AREA: 625 sq.in. UENT HEIGHT: 12 in.

FIRE STARTED DUE TO:	1	I	FRI Time	A	М
Fire Origin	1	95	20	0	40
Tbar Failure	I	80	20	0	60
Dbar Failure	1	40	*	0	0
+	calculated as	(100	- % Hea	a t.	Release)/10

calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater

DETECTION:

Manual:

Occupied 30% of time in port and 50% of time at sea.

Automatic:

Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-162-3-LP PASSAGE

Barri (Adjoining Co	ers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-114-1-LP	PASSAGE	W6	1	40.0	10	100	5
01-162-0-TU	UPTAKE 2	W8	0	3 3.0	80	100	5
01-162-1-TS	STAIRCASE	พ5	0	60.0	5	80	5
01-162-1-TS	STAIRCASE	ω 5	1	127.0	5	80	5
01-162-5-A	ARCTIC GEAR LOCKEROFFIC	W2	0	117.0	25	40	30
01-162-5-A	ARCTIC GEAR LOCKEROFFIC	W2	1	140.0	25	40	30
01-178-1-LP	PASSAGE	W2	1	40.0	25	40	3.0
01-178-3-W	ROLL STABILIZATION TANK	₩6	0	140.0	10	100	5
1-162-1-TS	STAIRCASE	F3	0	19.8	25	300	5
1-162-3-LP	PASSAGE	F3	0	72.6	25	300	5
1-174-1-L	MEDICAL TREATMENT & EXAMI	F3	0	43.0	25	300	5
1-174-3-L	WARD NO.2	F3	0	8.6	25	300	5
02-115-1-LP	PASSAGE	C3	0	64.0	10	100	5
02-162-1-TS	STAIRCASE	C3	0	19.8	10	100	5
02-162-3-L	OFFICER SR	C3	0	21.5	10	100	5
02-171-1-LW	WR WC & SHR	C3	0	38.7	10	100	5

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Compartment: 01-162-4-LW WR WC & SHR

USE: LW Wash room, water closet and shower areas

AREA: 38 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 385 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 96 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 150 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: | I FRI A M Time

Fire Origin | 100 999 0 30
Thar Failure | 100 999 0 40
Dbar Failure | 35 * 0 0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-162-4-LW WR WC & SHR

Barriers (Adjoining Compts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-100-2-LP PASSAGE 01-154-2-LW WR WC & SHR 01-162-2-LP PASSAGE 01-162-6-L CPO BERTHING 01-162-6-L CPO BERTHING 1-162-2-LP PASSAGE 1-162-4-Q SHIP STORE 02-121-2-LP PASSAGE 02-162-4-LW WR WC & SHR	W6 W3 W3 W3 F3 F3 C3	0 0 0 1 0 0 0	20.0 30.0 77.0 50.0 77.0 30.8 7.7 15.4 23.1	10 10 25 25 25 25 25 10	100 100 60 60 300 300 100	5 25 25 25 25 5 5

Compartment: 01-162-5-A ARCTIC GEAR LOCKER--OFFICER/CPO

USE: AG Small Storage Spaces -- Gear Lockers

AREA: 163 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 1,638 cu.ft.

UNACCEPTABLE LOSS: Code 3 (Full compartment lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 1.0000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0009

FUEL LOAD: 120,000 BTUs/sq.ft.

Based on hanging wetsuits or parkas.

UENTILATION: 163 cu ft/min EXCHANGE TIME: 10.0 min. UENT AREA: 10 sq.in. UENT HEIGHT: 1 in.

UENT AREA: 10 sq.in.

FIRE STARTED DUE TO: I FRI A 1 Time 1 5 3 0 40 Fire Origin 5 3 0 30 Thar Failure 1 Dbar Failure * O 1 0 0

* calculated as (100 - % Heat Release)/100 \times FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 10% of time at sea.

Automatic:

Rate of temperature rise detection system (RR)

Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-162-5-A ARCTIC GEAR LOCKER--OFFICER/CPO

Barri (Adjoining Co	ers mpts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-146-3-L 01-162-3-LP 01-162-3-LP 1-162-3-LP 1-162-5-LW 1-162-7-L 1-174-1-L 1-174-3-L	OFFICER SR PASSAGE PASSAGE PASSAGE WARD BATH WARD NO.1 MEDICAL TREATMENT & EXAMI WARD NO.2	W6 W2 F3 F3 F3 F3 F3	0 0 1 0 0 0	140.0 117.0 140.0 23.4 98.0 21.4 19.0 2.0	10 25 25 25 25 25 25	100 40 40 300 300 300 300	5 30 30 5 5 5
02-162-3-L 02-171-1-LW	OFFICER SR WR WC & SHR	C3	0	139.5 24.3	10 10	100	5 5

Compartment: 01-162-6-L CPO BERTHING

USE: L2 Berthing Space for 2

AREA: 148 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 1,487 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 32,800 BTUs/sq.ft.

From CPO Berthing Compartment Tests, MFRB 000134

297 cu ft/min EXCHANGE TIME: UENTILATION: 5.0 min. **VENT HEIGHT: 90 in.**

UENT AREA: 175 sq.in.

FIRE STARTED DUE TO: I FRI Time Fire Origin 15 3 0 30 Tbar Failure 10 3 0 40 Dbar Failure 5 * 0 0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I) Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable monoammonium phosphate fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-162-6-L CPO BERTHING

Barr (Adjoining C	iers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-142-2-L 01-154-2-LW 01-162-2-LP	CPO BERTHING WR WC & SHR PASSAGE	₩6 ₩6	0 0	88.0 22.0	10	100	5 5
01-162-2-LP 01-162-2-LP 01-162-4-LW 01-162-4-LW	PASSAGE WR WC & SHR WR WC & SHR	ພ2 ພ2 ພ3 ພ3	0 1 1 0	40.0 160.0 50.0 77.0	25 25 25 25	40 40 60	30 30 25 25
1-162-2-LP 1-162-4-Q 1-162-6-A	PASSAGE SHIP STORE SHIP STORE STOREROOM	F3 F3 F3	0 0 0	16.0 111.3 21.4	25 25 25	300 300 300	5 5 5
02-121-2-LP 02-162-4-LW 02-162-6-L	PASSAGE WR WC & SHR OFFICER SR	C3 C3	0	8.0 36.1 104.6	10 10 10	100 100 100	5 5 5

Compartment: 01-178-1-LP PASSAGE

USE: LP Passageways

AREA: 224 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 2,240 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0001

FUEL LOAD: 3,200 BTUs/sq.ft.

Paint, cable insulation laminate on blkhds-no dropped ceiling

VENTILATION: 448 cu ft/min EXCHANGE TIME: 5.0 min.

UENT AREA: 250 sq.in. UENT HEIGHT: 12 in.

FIRE STARTED DUE TO:	 	I	FRI Time	A	М
Fire Origin	 1	95	20	0	40
Tbar Failure	ŀ	80	20	0	60
Dbar Failure	1	40	*	0	0
* calcula	ted as	(100	- % He	at	Release)/

calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 30% of time in port and 50% of time at sea.

Automatic:

Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

- 1 Hand portable carbon dioxide fire extinguisher
- 1 Hand portable dry chemical fire extinguisher (PKP)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

- 1 1 1/2" Seawater hand line with "all purpose nozzle" 50 ft.
- 1 1 1/2" AFFF (3%) hand line with SFL variable nozzle 50 ft.

Compartment: 01-178-1-LP PASSAGE

Barri (Adjuining Co	ers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-162-3-LP 01-178-0-W 01-178-0-W 01-178-0-W 01-178-0-W 01-178-0-W 01-178-3-W 01-218-5-LP 1-162-3-LP 1-178-1-E 02-178-0-E 02-178-1-LP	PASSAGE ROLL STAB TANK CROSS DUCK ROLL STABILIZATION TANK PASSAGE PASSAGE BOILER ROOM UPPER LEVEL EMERGENCY/HARBOR GENERATO PASSAGE	ଜ ଜ ଜ	1 0 0 0 0 0 0 1 0	40.0 40.0 118.0 160.0 160.0 242.0 400.0 40.0 42.8 181.2 64.0	25 10 10 10 10 10 25 25 25	40 100 100 100 100 100 40 300 300 100	3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5

Compartment: 01-218-1-LW WC & SHR

USE: LW Wash room, water closet and shower areas

AREA: 42 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 424 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 106 cu ft/min EXCHANGE TIME: 4.0 min.

VENT HEIGHT: 90 in. UENT AREA: 175 sq.in.

FIRE STARTED DUE TO: I I FRI A M ı Time 1 100 999 0 30 Fire Origin 1 100 999 0 40 Tbar Failure

FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-218-1-LW WC & SHR

Barriers (Adjoining Compts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-178-0-W ROLL STAB TANK CROSS DUCK 01-218-2-LW WC & SHR 01-218-3-A GEAR LOCKER 01-222-0-LW WC & SHR 01-222-1-L SCIENTIST SR 1-210-0-M SMALL ARMS STOW & REPAIR 1-210-1-Q BARBER SHOP 02-218-0-QO HELO EQUIP ROOM & OFFICE	W6 W3 W3 W3 F3 F3 C3	0 0 0 0 1 0 0	80.0 53.0 53.0 45.0 35.0 23.8 18.6 42.4	10 25 25 25 25 25 25 25	100 60 60 60 300 300 300	5 25 25 25 25 25 5 5

Compartment: 01-218-2-LW WC & SHR

USE: LW Wash room, water closet and shower areas

AREA: 47 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 476 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 119 cu ft/min EXCHANGE TIME: 4.0 min.

VENT HEIGHT: 90 in. UENT AREA: 175 sq.in.

FIRE STARTED DUE TO: I FRI A Time I 100 999 0 30 Fire Origin 1 100 999 0 40 Thar Failure

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-218-2-LW WC & SHR

Barri (Adjoining Co	ers mpts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-178-0-W 01-218-1-LW 01-218-4-A 01-218-4-A 01-218-4-A 01-222-0-LW 01-222-2-L 1-210-0-M 1-218-2-A 02-218-0-QO	ROLL STAB TANK CROSS DUCK WC & SHR GEAR LOCKER GEAR LOCKER WC & SHR SCIENTIST SR SMALL ARMS STOW & REPAIR C.G. LOCKER HELO EQUIP ROOM & OFFICE	W6 W3 W3 W3 W3 W3 F3 F3 C3	0 0 0 0 0 0 1 0	80.0 53.0 20.0 26.0 27.0 45.0 55.0 42.4 5.2 47.6	10 25 25 25 25 25 25 25 25	100 60 60 60 60 60 300 300	5 25 25 25 25 25 25 5 5

Compartment: 01-218-3-A GEAR LOCKER

USE: AG Small Storage Spaces -- Gear Lockers

AREA: 42 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 424 cu.ft.

UNACCEPTABLE LOSS: Code 4 (2 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 1.0000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0009

FUEL LOAD: 1,080,000 BTUs/sq.ft.

Fuel load in psf = 15 x height of deck.

UENTILATION: 42 cu ft/min EXCHANGE TIME: 10.0 min.

UENT AREA: 10 sq.in. UENT HEIGHT: 1 in.

FIRE STARTED DUE TO: 1 I FRI A 1 Time 1 20 3 0 40 Fire Origin Thar Failure 10 3 0 30 ı Dbar Failure 0 n * n

* calculated as (100 - % Heat Release)/100 \times FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 10% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-218-3-A GEAR LOCKER

Barri (Adjoining Co	ers mpts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-178-0-W 01-218-1-LW 01-218-5-LP 01-222-1-L 1-210-1-Q 1-213-1-LW 02-218-0-QO	ROLL STAB TANK CROSS DUCK WC & SHR PASSAGE SCIENTIST SR BARBER SHOP WC & WR HELO EQUIP ROOM & OFFICE	₩6 ₩3 ₩2 ₩2 F3 F3	0 0 1 0 0	80.0 53.0 53.0 80.0 26.5 15.9	10 25 25 25 25 25 25	100 60 40 40 300 300	5 25 30 30 5 5

Compartment: 01-218-4-A GEAR LOCKER

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USE: AG Small Storage Spaces -- Gear Lockers

AREA: 37 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 372 cu.ft.

UNACCEPTABLE LOSS: Code 4 (2 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 1.0000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0009

FUEL LOAD: 1,080,000 BTUs/sq.ft.

Fuel load in psf = 15 x height of deck.

UENTILATION: 37 cu ft/min EXCHANGE TIME: 10.0 min.

UENT AREA: 10 sq.in. UENT HEIGHT: 1 in.

FIRE STARTED DUE TO:	! !	I	FRI Time	A	М
Fire Origin		20	3	0	40
Thar Failure	1	10	3	0	30
Dbar Failure	1	0	*	0	0
*	calculated as FRI Time or 2				

DETECTION:

Manual:

Occupied 5% of time in port and 10% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-218-4-A GEAR LOCKER

Barri (Adjoining Co	ers mpts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-178-0-W 01-218-2-LW 01-218-2-LW 01-218-6-LP 01-222-2-L 1-210-2-Q 1-218-2-A 02-218-0-Q0	ROLL STAB TANK CROSS DUCK WC & SHR WC & SHR WC & SHR PASSAGE SCIENTIST SR MAIL ROOM C.G. LOCKER HELO EQUIP ROOM & OFFICE	₩6 ₩3 ₩3 ₩2 ₩2 ₩2 F3 F3	0 0 0 0 1 0 0	80.0 20.0 26.0 27.0 53.0 60.0 5.6 31.6 37.2	10 25 25 25 25 25 25 25	100 60 60 60 40 40 300 300	5 25 25 25 30 30 5

Compartment: 01-218-5-LP PASSAGE

Zero strength barrier adjacent.

USE: LP Passageways

AREA: 439 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 4,399 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0001

FUEL LOAD: 3,200 BTUs/sq.ft.

Paint, cable insulation laminate on blkhds-no dropped ceiling

UENTILATION: 879 cu ft/min EXCHANGE TIME: 5.0 min.

UENT AREA: 1125 sq.in. UENT HEIGHT: 12 in.

FIRE STA	RTED DUE T	' 0 :		 	I 	FRI Tim		M
Fire	Origin			1	95	20	0	40
Tbar	Failure			1	80	20	0	60
Dbar	Failure			ł	40	+	. 0	0
		*	calculated	a s	(100	- %	Heat	Release)/

* calculated as (100 ~ % Heat Release)/100 > FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 30% of time in port and 50% of time at sea.

Automatic:

Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

2 Hand portable monoammonium phosphate fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-218-5-LP PASSAGE

Barri (Adjoining Co	ers	Mat ID	D∕H	Area-	Tbar	Dbar	%heat rel
01-178-1-LP	PASSAGE	W2	1	40.0	25	40	30
01-178-3-W	ROLL STABILIZATION TANK	₩ 6	0	20.0	10	100	5
01-218-3-A		ω2	1	53.0	25	40	30
	SCIENTIST SR	W2	1	160.0	25	40	3.0
	SCIENTIST SR	ω2	0	120.0	25	40	30
01-239-3-L		W2	1	160.0	25	40	30
	PASSAGE	ωo	0	40.0	0	0	100
01-255-0-L		W2	1	25.0	25	40	3.0
01-255-1-LW		ผз	0	25.0	25	60	25
01-255-3-L	SCIENTIST SR	W2	1	35.0	25	40	30
01-255-3-L	SCIENTIST SR	W2	0	71.0	25	40	30
01-255-3-L	SCIENTIST SR	W2	8	80.0	25	40	30
01-255-5-LW	WC & SHR	WЗ	Ð	30.0	25	60	25
01-255-5-LW	WC & SHR	ω 3	0	89.0	25	60	25
01-271-1-L	SCIENTIST SR	W2	1	59.0	25	40	30
01-277-5-L	SCIENTIST SR	ω 2	1	95.0	25	40	30
1-162-3-LP	PASSAGE	F3	0	31.8	25	300	5
1-223-0-C	AFT REPAIR NO.3 & DAMAGE	F3	ŋ	96.0	25	300	5
1-239-0-Q	DRY LAB	F3	0	54.0	25	300	5
1-239-1-LP	PASSAGE	F 3	0	38.4	25	300	5
	SCIENCE REEFER MACHY. ROO	F3	0	62.6	25	300	5
1-255-1-A		F3	0	96.0	25	300	5
1-271-0-Q	WET LAB	F3	0	56.1	25	300	5
•	HELO EQUIP ROOM & OFFICE	C3	ΰ	60.0		100	5
	HANGAR	C3	0	84.7	10	100	5
~							-
			8				

Compartment: 01-218-8-A SCIENTIST BAGGAGE ROOM

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USE: AS Storerooms

AREA: 170 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 1,704 cu.ft.

UNACCEPTABLE LOSS: Code 4 (2 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.3300 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0009

FUEL LOAD: 1,600,000 BTUs/sq.ft.

Boxes of flammable stores -- Fuel load in psf = 20 x height of deck

UENTILATION: 170 ca ft/min EXCHANGE TIME: 10.0 min.

UENT AREA: 10 sq.in. UENT HEIGHT: 1 in.

FIRE STARTED DUE TO:	1	 	I	FRI Time	А	М
Fire Origin		 I	30	4	0	30
Tbar Failure		ì	20	4	0	20
Dbar Failure	ļ	1	10	*	0	0
*	calculated a	as	(100	- % He	at	Release)/10

* calculated as $(100 - \% \text{ Heat Release})/100 \times FRI Time or 2 min., whichever is greater.$

DETECTION:

Manual:

Occupied 5% of time in port and 5% of time at sea.

Automatic:

Rate of temperature rise detection system (RR) Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-218-8-A SCIENTIST BAGGAGE ROOM

Barr (Adjoining C	iers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-178-2-W	ROLL STABILIZATION TANK PASSAGE	ພ6	0	80.0	10	100	5
01-218-6-LP		ພ2	1	213.0	25	40	30
01-239-8-A	FAN ROOM	W6	0	80.0	10	100	5
1-213-2-TS	STAIRCASE	F3		21.2	25	300	5
1-217-2-A	C.G. LOCKER	F3	0	21.2	25	300	5
1-223-4-A	LIFE JACKET LOCKER	F3	0	64.0	25	300	5
1-223-6-L	Q.M. SHELTER	F3	0	16.0	25	300	5
1-233-2-A	BOAT GEAR LOCKER	F3	0	48 .0	25	300	5
02-218-0-QO 02-228-0-Q	HELO EQUIP ROOM & OFFICE HANGAR	C3	0 0	20.0 45.2	10	100 100	5 5

Compartment: 01-222-0-LW WC & SHR

•

USE: LW Wash room, water closet and shower areas

AREA: 27 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 270 cq.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 67 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: | I FRI A M | Time | | 100 999 0 30 | Thar Failure | 100 999 0 40 | Dbar Failure | 35 * 0 0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-222-0-LW WC & SHR

Barr: (Adjoining Co	iers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-218-1-LW 01-218-2-LW 01-222-1-L 01-222-2-L 01-225-0-L 1-223-0-C 02-218-0-QO	WC & SHR WC & SHR SCIENTIST SR SCIENTIST SR SCIENTIST SR AFT REPAIR NO.3 & DAMAGE HELO EQUIP ROOM & OFFICE	W3 W3 W3 W3 W3 F3 C3	0 0 0 0 1 0	45.0 45.0 30.0 30.0 90.0 27.0	25 25 25 25 25 25 25	60 60 60 60 300	25 25 25 25 25 25 5

Compartment: 01-222-1-L SCIENTIST SR

USE: L2 Berthing Space for 2

AREA: 184 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 1,841 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 19,848 BTUs/sq.ft. No. of people x 200/compt.area

UENTILATION: 368 cu ft/min EXCHANGE TIME: UENT AREA: 175 sq.in. UENT HEIGHT: 90 in. 5.0 min.

UENT AREA: 175 sq.in.

FIRE STARTED DUE TO: l I FRI A 1 Time 1 20 5 0 30 Fire Origin

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I) Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable monoammonium phosphate fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-222-1-L SCIENTIST SR

Barri (Adjoining Co	ers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-218-1-LW 01-218-3-A 01-218-5-LP 01-222-0-LW 01-225-0-L 01-239-1-LW 01-239-3-L 1-223-0-C 02-218-0-Q0 02-228-0-Q	WC & SHR GEAR LOCKER PASSAGE WC & SHR SCIENTIST SR WC & SHR SCIENTIST SR AFT REPAIR NO.3 & DAMAGE HELO EQUIP ROOM & OFFICE HANGAR	W3 W2 W3 W2 W3 W3 W2 F3 C3	1 0 1 0 0 0 0	35.0 80.0 160.0 30.0 130.0 45.0 70.0 184.1 54.1	25 25 25 25 25 25 25 25 25 10	60 40 40 60 40 60 40 300 100	25 30 35 35 35 35 35 55

Compartment: 01-222-2-L SCIENTIST SR

USE: L2 Berthing Space for 2

AREA: 131 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 1,311 ca.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 19,848 BTUs/sq.ft. No. of people x 200/compt.area

UENTILATION: 262 cu ft/min EXCHANGE TIME: UENT AREA: 175 sq.in. UENT HEIGHT: 90 in. 5.0 min.

FIRE STARTED DUE TO: l I FRI A M i Time _____ 1 20 5 0 30 Fire Origin 5 0 40 * 0 0 ١ 15 Tbar Failure 0 Dbar Failure 5 * calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I) Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-222-2-L SCIENTIST SR

Barr (Adjoining Co	iers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-218-2-LW 01-218-4-A 01-218-6-LP 01-218-6-LP 01-222-0-LW 01-225-0-L 1-223-0-C 02-218-0-QO 02-228-0-Q	WC & SHR GEAR LOCKER PASSAGE PASSAGE WC & SHR SCIENTIST SR AFT REPAIR NO.3 & DAMAGE HELO EQUIP ROOM & OFFICE HANGAR	W3 W2 W2 W3 W2 F3 C3	1 0 0 1 0 0 0	55.0 60.0 114.0 115.0 30.0 84.0 131.1 54.1 77.1	25 25 25 25 25 25 25 25 10	60 40 40 40 60 40 300 100	25 30 30 30 25 30 5
			2				

Compartment: 01-225-0-L SCIENTIST SR

USE: L1 Berthing Space for 1

AREA: 116 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 1,169 cq.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 12,442 BTUs/sq.ft.

No. of people x 200/compt.area

UENTILATION: 233 cu ft/min EXCHANGE TIME: 5.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: I FRI A M 1 Time 1 20 5 0 30 1 15 5 0 40 Fire Origin Thar Failure Dbar Failure 5 * 0

> * calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I) Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-225-0-L SCIENTIST SR

Barra (Adjoining Co	ers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-218-6-LP 01-222-0-LW 01-222-1-L 01-222-2-L 01-239-1-LW 01-239-2-LW 1-223-0-C 02-218-0-QO 02-228-0-Q	PASSAGE WC & SHR SCIENTIST SR SCIENTIST SR WC & SHR WC & SHR WC & SHR AFT REPAIR NO.3 & DAMAGE HELO EQUIP ROOM & OFFICE HANGAR	W2 W3 W2 W3 W3 F3 C3	1 0 0 0 0 0	46.0 90.0 130.0 84.0 45.0 45.0 116.9 15.3	25 25 25 25 25 25 25 10	40 60 40 40 60 300 100	30 25 30 30 25 25 5

Compartment: 01-239-1-LW WC & SHR

USE: LW Wash room, water closet and shower areas

AREA: 27 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 270 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 67 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 150 sq.in. UENT HEIGHT: 90 in.

* calculated as (100 + % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-239-1-LW WC & SHR

Barr: (Adjoining Co	iers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-222-1-L 01-225-0-L 01-239-2-LW 01-239-3-L 01-239-3-L 1-239-0-Q 02-228-0-Q	SCIENTIST SR SCIENTIST SR WC & SHR SCIENTIST SF SCIENTIST SR DRY LAB HANGAR	W3 W3 W3 W3 F3 C3	0 0 0 1 0 0	45.0 45.0 30.0 30.0 90.0 27.0	25 25 25 25 25 25 25	60 60 60 60 300	25 25 25 25 25 25 5

Compartment: 01-239-2-LW WC & SHR

USE: LW Wash room, water closet and shower areas

AREA: 27 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 270 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 67 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 150 sq.in. UENT HEIGHT: 90 in.

l I FRI A FIRE STARTED DUE TO: Time ł 1 100 999 0 30 Fire Origin 1 100 999 0 40 Thar Failure Dbar Failure 35 * O 0 1 \star calculated as (100 - % Heat Release)/100 \times FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-239-2-LW WC & SHR

Barr (Adjoining C	iers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-218-6-LP 01-225-0-L 01-239-1-LW 01-239-4-L 01-239-4-L 1-239-0-Q 02-228-0-Q	PASSAGE SCIENTIST SR WC & SHR SCIENTIST SR SCIENTIST SR DRY LAB HANGAR	W3 W3 W3 W3 F3 C3	0 0 0 1 0 0	45.0 45.0 30.0 30.0 90.0 27.0 27.0	25 25 25 25 25 25 10	60 60 60 60 300	25 25 25 25 25 25 5

Compartment: 01-239-3-L SCIENTIST SR

USE: L2 Berthing Space for 2

AREA: 165 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 1,650 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREOUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 18,846 BTUs/sq.ft. No. of people x 200/compt.area

UENTILATION: 330 cu ft/min EXCHANGE TIME: UENT AREA: 175 sq.in. UENT HEIGHT: 90 in. 5.0 min.

VENT AREA: 175 sq.in.

FIRE STARTED DUE TO: I FRI Α ĺ Time Fire Origin 1 20 5 0 30 Thar Failure l 15 5 0 40 Dbar Failure 5 * i 0 0

> * calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I) Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-239-3-L SCIENTIST SR

Barr: (Adjoining Co	ers ompts ID and Name)	Mat ID	D∕H	Area-	Tbar	Dbar	%heat rel
01-218-5-LP 01-218-5-LP 01-222-1-L 01-239-1-LW 01-239-1-LW 01-239-4-L 1-239-0-Q 1-245-1-Q 02-228-0-Q	PASSAGE PASSAGE SCIENTIST SR WC & SHR WC & SHR SCIENTIST SR DRY LAB SCIENCE REEFER MACHY. ROO HANGAR	W2 W2 W2 W3 W3 W2 F3 F3	0 1 0 1 0 0 0	120.0 160.0 70.0 30.0 90.0 90.0 151.0 14.0	25 25 25 25 25 25 25 25	40 40 40 60 60 40 300 300	30 30 30 35 25 3 5 5

COMPARTMENT FIRE SAFETY SUMMARY FOR POLAR ICEBREAKER REPLACEMENT

(drawings dated 5/12/1987)

Compartment: 01-239-4-L SCIENTIST SR

USE: L2 Berthing Space for 2

AREA: 165 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 1,650 cq.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 18,846 BTUs/sq.ft.

No. of people x 200/compt.area

UENTILATION: 330 cu ft/min EXCHANGE TIME: 5.0 min. UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

I I FRI A M I Time FIRE STARTED DUE TO: | 20 5 0 30 | 15 5 0 40 Fire Origin Tbar Failure Dbar Failure 5 * O

> * calculated as (100 - % Heat Release)/100 \times FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I) Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment:	01-239-4-L	SCIENTIST SR
--------------	------------	--------------

Barriers (Adjoining Compts ID and A	· · - ·	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-218-6-LP PASSAGE 01-239-2-LW WC & SHR 01-239-2-LW WC & SHR 01-239-3-L SCIENTIST SE 01-239-6-LP PASSAGE 01-239-6-LP PASSAGE 1-239-0-Q DRY LAB 02-228-0-Q HANGAR	W2 W3 W3 W2 W2 W2 F3 C3	0 1 0 0 0 1 0	70.0 30.0 90.0 90.0 120.0 160.0 165.0	25 25 25 25 25 25 25 10	40 60 60 40 40 40 300	30 25 25 30 30 55

Compartment: 01-239-8-A FAN ROOM

.

USE: QF Fan Rooms

AREA: 128 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 1,280 cu.ft.

UNACCEPTABLE LOSS: Code 4 (2 compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.3300 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0004

FUEL LOAD: 1,600,000 BTUs/sq.ft.

Boxes of flammable stores -- Fuel load in psf = 20 x height of deck

UENTILATION: 640 cu ft/min EXCHANGE TIME: 2.9 min.

UENT AREA: 10 sq.in. UENT HEIGHT: 1 in.

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 5% of time at sea.

Automatic:

Rate of temperature rise detection system (RR) Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-239-8-A FAN ROOM

Barr (Adjoining Co	iers ompts ID and Name)	Mat ID	D/ H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-218-8-A 01-239-6-LP 01-255-10-A 01-255-8-A 1-239-2-A 02-228-0-Q	SCIENCE BAGGAGE ROOM PASSAGE STOREROOM XFMR FECT HELO PHOTO LAB HANGAR	# # # # # # # # # # # # # # # # # # #	0 1 0 0 0	80.0 160.0 40.0 40.0 128.0 64.0	10 10 10 10 25	100 100 100 100 300 100	55 55 55

Compartment: 01-255-0-L SCIENTIST SR

USE: L2 Berthing Space for 2

AREA: 137 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 1,375 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 23,279 BTUs/sq.ft.

No. of people x 200/compt.area

UENTILATION: 275 cu ft/min EXCHANGE TIME: UENT AREA: 175 sq.in. UENT HEIGHT: 90 in. 5.0 min.

FIRE STARTED DUE TO: I FRI A 1 Time Fire Origin 1 20 5 0 30 Thar Failure 1 15 5 0 40 Dbar Failure 5 * O 1 - 0

> * calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I) Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment:	01-255-0-L	SCIENTIST SR
oompar omone.		001111101

Barri (Adjoining Co	ers	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-218-5-LP 01-239-6-LP 01-255-1-LW 01-255-1-LW 01-255-2-L 01-255-3-L 01-271-1-L 01-271-2-Q 1-255-0-Q 1-255-1-A 02-228-0-Q	PASSAGE PASSAGE WC & SHR WC & SHR SCIENTIST SR SCIENTIST SR SCIENTIST SR SCIENTIST SR SCIENTIST LIBRARY/CONFERE ELECTRONICS LAB REEFER HANGAR	W2 W3 W3 W2 W6 W6 F3 F3	1 0 0 1 0 0 0 0 0	25.0 50.0 25.0 90.0 160.0 70.0 50.0 50.0 112.0 25.5 137.5	25 25 25 25 25 25 10 25 25 10	40 40 60 40 40 100 300 300 100	30 30 25 30 55 55 55 55 55

. 2

Compartment: 01-255-1-LW WC & SHR

USE: LW Wash room, water closet and shower areas

AREA: 22 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 225 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 56 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 150 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: | I FRI A M | Time | | 100 999 0 30 | Thar Failure | 100 999 0 40 | Dbar Failure | 135 * 0 0

* calculated as (100 - % Heat Release)/100 X
FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-255-1-LW WC & SHR

Barriers (Adjoining Compt		Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-255-0-L SC 01-255-0-L SC 01-255-3-L SC 1-255-1-A RE	ASSAGE CIENTIST SR CIENTIST SR CIENTIST SR GEFER ANGAR	W3 W3 W3 F3 C3	0 0 1 0 0	25.0 25.0 90.0 90.0 22.5 22.5	25 25 25 25 25 25	60 60 60 60 300	2 5 2 5 25 25 25 5

Compartment: 01-255-10-A STOREROOM

USE: AS Storerooms

AREA: 64 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 640 cu.ft.

UNACCEPTABLE LOSS: Code 4 (2 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.3300 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0009

FUEL LOAD: 1,600,000 BTUs/sq.ft.

Boxes of flammable stores -- Fuel load in psf = 20 x height of deck

UENTILATION: 64 cu ft/min EXCHANGE TIME: 10.0 min.

UENT HEIGHT: 1 in. VENT AREA: 10 sq.in.

FIRE STARTED DUE TO: I FRI A 1 1 Time 1 30 4 0 30 Fire Origin Thar Failure 1 20 4 0 20 Dbar Failure 10 * 0 0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 5% of time at sea.

Automatic:

Rate of temperature rise detection system (RR) Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-255-10-A STOREROOM

Barr: (Adjoining Co	iers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-239-8-A	FAN ROOM	и 6	G	40.0	10	100	5
01-255-8-A	XFMR FECT HELO	ω ₂	Ö	64.0	25	40	30
01-261-2-TS	STAIRCASE	ພ5	1	96.0	5	80	5
01-271-4-L	SCIENTIST SR	W6	0	40.0	10	103	5
1-255-2-TS	STAIRCASE	F3	0	64.0	25	300	5
·		_			_		

Compartment: 01-255-2-L SCIENTIST SR

USE: L2 Berthing Space for 2

AREA: 150 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 1,508 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 21,220 BTUs/sq.ft.

No. of people x 200/compt.area

UENTILATION: 301 cu ft/min EXCHANGE TIME: UENT AREA: 175 sq.in. UENT HEIGHT: 90 in. 5.0 min.

UENT AREA: 175 sq.in.

i I FIRE STARTED DUE TO: FRI A M 1 Time 1 20 5 0 30 Fire Origin 1 15 5 0 40 Tbar Failure Dbar Failure 5 0 0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I) Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-255-2-L SCIENTIST SR

Barri (Adjoining Co	ers mpts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-239-6-LP 01-255-0-L 01-255-4-LW 01-255-4-LW 01-255-6-LP 01-271-2-Q 1-255-0-Q 02-228-0-Q	PASSAGE SCIENTIST SR WC & SHR WC & SHR PASSAGE SCIENTIST LIBRARY/CONFERE ELECTRONICS LAB HANGAR	W2 W3 W3 W2 W6 F3 C3	1 0 0 1 0 0 0	80.0 160.0 30.0 84.0 76.0 110.0 150.8	25 25 25 25 25 10 25 10	40 40 60 60 40 100 300	30 30 25 25 30 5 5

Compartment: 01-255-3-L SCIENTIST SR

USE: L2 Berthing Space for 2

AREA: 149 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 1,493 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 21,433 BTUs/sq.ft. No. of people x 200/compt.area

UENTILATION: 298 cu ft/min EXCHANGE TIME: 5.0 min.

UENT HEIGHT: 90 in. UENT AREA: 175 sq.in.

I I FRI A M FIRE STARTED DUE TO: Time 1 20 5 0 30 1 15 5 0 40 Fire Origin Thar Failure Dbar Failure 5

> \star calculated as (100 - % Heat Release)/100 \times FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I) Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-255-3-L SCIENTIST SR

Barr (Adjoining C	iers ompts ID and Name)	Mat ID	D∕H	Area- sq ft	Tbar	Dbar	%heat rel
01-218-5-LP 01-218-5-LP 01-218-5-LP 01-255-0-L 01-255-1-LW 01-255-5-LW 01-255-5-LW 01-271-1-L 1-255-1-A 02-228-0-Q	PASSAGE PASSAGE PASSAGE SCIENTIST SR WC & SHR WC & SHR WC & SHR SCIENTIST SR REEFER HANGAR	W2 W2 W2 W3 W3 W3 W6 F3 C3	1 0 0 0 0 0 1 0	35.0 71.0 80.0 70.0 90.0 30.0 89.0 75.0 149.3	25 25 25 25 25 25 25 10 25 10	40 40 40 60 60 60 100 300	30 30 30 35 25 25 55

Compartment: 01-255-4-LW WC & SHR

USE: LW Wash room, water closet and shower areas

AREA: 25 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 252 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 63 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 150 sq.in. UENT HEIGHT: 90 in.

* calculated as (100 - % Heat Release)/100 > FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea. Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-255-4-LW WC & SHR

Barr (Adjoining C	iers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-239-6-LP 01-255-2-L 01-255-2-L 01-255-6-LP 1-255-0-Q 02-228-0-Q	PASSAGE SCIENTIST SR SCIENTIST SR PASSAGE ELECTRONICS LAB HANGAR	W3 W3 W3 F3 C3	0 0 1 0 0	30.0 30.0 84.0 84.0 25.2	25 25 25 25 25 25	60 60 60 60 300	25 25 25 25 25 5

Compartment: 01-255-5-LW WC & SHR

USE: LW Wash room, water closet and shower areas

AREA: 26 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 267 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 66 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 150 sq.in. UENT HEIGHT: 90 in.

pprox calculated as (100 - % Heat Release)/100 imes FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-255-5-LW WC & SHR

Barr (Adjoining C	iers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-218-5-LP 01-218-5-LP 01-255-3-L 01-255-3-L 1-255-1-A 02-228-0-Q	PASSAGE PASSAGE SCIENTIST SR SCIENTIST SR REEFER HANGAR	W3 W3 W3 W3 F3 C3	0 0 0 1 0	30.0 89.0 30.0 89.0 26.7 26.7	25 25 25 25 25 25	60 60 60 60 300 100	25 25 25 25 25 5

Compartment: 01-255-8-A XFMR RECT HELO

USE: AG Small Storage Spaces -- Gear Lockers

AREA: 25 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 256 cu.ft.

UNACCEPTABLE LOSS: Code 3 (Full compartment lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 1.0000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0009

FUEL LOAD: 8,000 BTUs/sq.ft.

UENTILATION: 25 cu ft/min EXCHANGE TIME: 10.0 min.

UENT AREA: 10 sq.in. UENT HEIGHT: 1 in.

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 10% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment:	01-255-8-A	XFMR REC	T HE	Lo				
Barr: (Adjoining Co	iers ompts ID and Name)		Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-239-8-A 01-255-10-A 01-255-6-LP 01-261-2-TS 1-255-2-TS 02-228-0-Q	FAN ROOM STOREROOM PASSAGE STAIRCASE STAIRCASE HANGAR		₩6 ₩2 ₩2 ₩5 F3 C3	0 0 1 0 0	40.0 64.0 64.0 40.0 25.6 25.6	10 25 25 5 25 10	100 40 40 80 300 100	50 30 35 55
				1				

Compartment: 01-261-2-TS STAIRCASE

USE: TS Staircases

AREA: 38 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 384 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0001

FUEL LOAD: 800 BTUs/sq.ft.

Paint-no carpet or laminate

76 cu ft/min EXCHANGE TIME: UENTILATION: 5.0 min.

UENT HEIGHT: 1 in. UENT AREA: 10 sq.in.

FIRE STARTED DUE TO: FRI A l I 1 Time Fire Origin 1 100 999 0 30 Thar Failure 1 100 999 0 40 Dbar Failure 90 Û

* calculated as $(100 - % Heat Release)/100 \times$ FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 30% of time in port and 50% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment:	01-261-2-TS	STAIRCASE

Barr: (Adjoining Co	iers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-255-10-A 01-255-6-LP 01-255-8-A 01-271-4-L 1-255-2-TS 02-228-0-Q	STOREROOM PASSAGE XFMR FECT HELO SCIENTIST SR STAIRCASE HANGAR	พร พร พร พ6 F3 C3	1 1 0 0 1	96.0 96.0 40.0 40.0 38.4 38.4	5 5 10 25 10	80 80 80 100 300	55555

Compartment: 01-271-1-L SCIENTIST SR

USE: L2 Berthing Space for 2

AREA: 229 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 2,297 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 13,931 BTUs/sq.ft.

No. of people x 200/compt.area

UENTILATION: 459 cu ft/min EXCHANGE TIME: 5.0 min.
UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: I FRI A M Time 1 20 5 0 30 1 15 5 0 40 1 5 * 0 0 Fire Origin Thar Failure Dbar Failure

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I) Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-271-1-L SCIENTIST SR

01-218-5-LP PASSAGE	Barri (Adjoining Co	ers mpts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
	01-255-0-L 01-255-3-L 01-271-2-Q 01-277-1-LW 01-277-1-LW 01-277-1-LW 01-277-3-LW 01-277-5-L 01-295-1-Q 1-271-0-Q	SCIENTIST SR SCIENTIST SR SCIENTIST LIBRARY/CONF WC & SHR	W6 W6 ERE W2 W3 W3 W3 W3 W2 W2 F3	0 0 1 0 0 0 0	50.0 75.0 240.0 25.0 25.0 100.0 25.0 81.0 100.0 229.7	10 25 25 25 25 25 25 25 25 25	100 100 40 60 60 60 40 40 300	5 30 25 25 25 25 30 30 5

Compartment: 01-271-2-Q SCIENTIST LIBRARY/CONFERENCE ROOM

USE: QO Offices

AREA: 650 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 6 504 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 1.0000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0004

FUEL LOAD: 20,000 BTUs/sq.ft.

UENTILATION: 929 cu ft/min EXCHANGE TIME: 7.0 min.

VENT HEIGHT: 90 in. VENT AREA: 225 sq.in.

FRI A FIRE STARTED DUE TO: ı I Time 1 20 5 0 60 1 15 5 0 40 Fire Origin Thar Failure **★** 0 Dbar Failure 5

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 35% of time at sea.

Automatic:

Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

2 Hand portable monoammonium phosphate fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-271-2-Q SCIENTIST LIBRARY/CONFERENCE ROOM

Barr (Adjoining Co	ners ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-255-0-L 01-255-2-L 01-255-6-LP 01-271-1-L 01-292-2-LP 01-295-1-Q 01-311-2-Q 01-311-2-Q 01-312-2-Q 1-271-0-Q 1-287-2-Q 02-228-0-Q	SCIENTIST SR SCIENTIST SR PASSAGE SCIENTIST SR PASSAGE UESTIBULE HOIST EQPT ROOM HOIST EQPT ROOM SCIENTIST COMM CENTER WET LAB WET LAB HONGAR	W6 W6 W2 W2 W2 W2 W6 W3 F3 C3	0 0 1 0 1 0 0 1	50.0 110.0 204.0 240.0 210.0 159.0 15.0 80.0 80.0 256.0 394.4	10 10 25 25 25 25 25 25 25 25 25	40 40 100 40 300	5 5 30 30 30 30 30 5 5 5

Compartment: 01-271-4-L SCIENTIST SR

USE: L2 Berthing Space for 2

AREA: 152 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 1,526 cu ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 20,678 BTUs/sq.ft. No. of people x 200/compt.area

UENTILATION: 305 cu ft/min EXCHANGE TIME: 5.0 min.
UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: I FRI A M J Time 1 20 5 0 30 Fire Origin ŧ Thar Failure 15 5 0 40 5 * 0 0 Dbar Failure

* calculated as (100 - % Heat Release)/100 \times FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I) Photo electric smoke detection system (P)

AUTOMOTED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-271-4-L SCIENTIST SR

Barri (Adjoining Co	ers mpts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-255-10-A 01-255-6-LP 01-255-6-LP 01-261-2-TS 01-271-6-LW 01-278-2-LW 1-271-2-Q 1-278-2-TS 02-228-0-Q	STOREROOM PASSAGE PASSAGE STAIRCASE WR WC & SHR WR WC & SHR RECOMPRESSION AREA & DIVE STAIRCASE HANGAR	W6 W2 W6 W3 F3 F3	0 1 0 0 1 1 0 0	40.0 96.0 159.0 40.0 79.0 80.0 118.6 34.0 37.6	10 25 25 10 25 25 25 25 25	100 40 40 100 60 60 300 300	5 30 30 5 25 25 5 5

Compartment: 01-271-6-LW WR WC & SHR

USE. LW Wash room, water closet and shower areas

AREA: 38 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 387 cq.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 96 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 150 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: | I FRI A M | Time | | 100 999 0 30 | | Thar Failure | 100 999 0 40 | | Dhar Failure | 35 * 0 0 | | * calculated as (100 - % Heat Release)/100 ×

* calculated as (100 - % Heat Release)/100 > FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment:	01-271-6-LW	ωR	MC &	SHR					
Barri (Adjoining Co	ers mpts ID and Name)			Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-271-4-L 01-271-8-L 01-278-2-LW 1-271-2-Q	SCIENTIST SR SCIENTIST SR WR WC & SHR RECOMPRESSION AR	EA &	DIU	W3 W3 W6 E F3	1 1 0	79.0 79.0 49.0 38.7	25 25 10 25	60 60 100 300	25 25 5

Compartment: 01-271-8-L SCIENTIST SR

USE: L2 Berthing Space for 2

AREA: 204 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 2,041 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 18,383 BTUs/sq.ft.
No. of people × 200/compt.area

UENTILATION: 408 cu ft/min EXCHANGE TIME: 5.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I)
Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-271-8-L SCIENTIST SR

Barriers (Adjoining Compts ID and Name)		Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-255-6-LP 01-271-6-LW 01-278-2-LW 01-292-8-L 1-271-2-Q	PASSAGE WR WC & SHR WR WC & SHR SCIENTIST SR RECOMPRESSION AREA & DI	W2 W3 W3 W6 VE F3	1 1 0 0	45.0 79.0 80.0 95.0 54.3	25 25 25 10 25	40 60 60 100 300	30 25 25 5

COMPARTMENT FIRE SAFETY SUMMARY FOR POLAR ICEBREAKER REPLACEMENT

(drawings dated 5/12/1987)

Compartment: 01-277-1-LW WC & SHR

USE: LW Wash room, water closet and shower areas

AREA: 25 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 250 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 62 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 150 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: i FRI A - (Fire Origin 1 100 999 0 30 Thar Failure 1 100 999 0 40 Dbar Failure 35 **★** 0 1 * calculated as (100 - % Heat Release)/100 \times

FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-277-1-LW WC & SHR

Barr (Adjoining C	iers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-271-1-L 01-271-1-L 01-271-1-L 01-277-3-LW 1-271-0-Q 02-228-0-Q	SCIENTIST SR SCIENTIST SR SCIENTIST SR WC & SHR WET LAB HANGAR	W3 W3 W3 F3 C3	1 0 0 0 0	25.0 25.0 100.0 100.0 25.0 8.8	25 25 25 25 25 25	60 60 60 60 300 100	25 25 25 25 5 5

Compartment: 01-277-3-LW WC & SHR

USE: LW Wash room, water closet and shower areas

AREA: 25 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 250 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 62 cu ft/min EXCHANGE TIME: 4.0 min.

UENT HEIGHT: 90 in. UENT AREA: 150 sq.in.

FIRE STARTED DUE TO: I I FRI A Time 1 100 999 0 30 Fire Origin Thar Failure 1 100 999 0 40 ***** 0 Dbar Failure 35 U

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea. Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-277-3-LW WC & SHR

Barr (Adjoining Co	ners ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-271-1-L 01-277-1-LW 01-277-5-L 01-277-5-L 1-271-0-Q 02-228-0-Q	SCIENTIST SR WC & SHR SCIENTIST SR SCIENTIST SR WET LAB HANGAR	W3 W3 W3 F3 C3	0 0 0 1 0	25.0 100.0 25.0 100.0 25.0 8.7	25 25 25 25 25 25	60 60 60 60 300	25 25 25 25 5 5

COMPARTMENT FIRE SAFETY SUMMARY FOR POLAR ICEBREAKER REPLACEMENT

(drawings dated 5/12/1987)

Compartment: 01-277-5-L SCIENTIST SR

USE: L2 Berthing Space for 2

AREA: 192 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 1,922 ca.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 16,645 BTUs/sq.ft.

No. of people x 200/compt.area

UENTILATION: 384 cu ft/min EXCHANGE TIME: 5.0 min.

VENT HEIGHT: 90 in. UENT AREA: 175 sq.in.

I FRI A M FIRE STARTED DUE TO: ١ Time | 20 5 0 30 | 15 5 0 40 | 5 * 0 0 Fire Origin 1 15 Thar Failure Dbar Failure

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I) Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-277-5-L SCIENTIST SR

Barriers (Adjoining Compts ID and Name)		Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-218-5-LP	PASSAGE	W 2	1	95.0	25	40	30
01-271-1-L	SCIENTIST SR	W 2	0	81.0	25	40	30
01-277-3-LW	WC & SHR	ผз	0	25.0	2 5	60	25
01-277-3-LW	WC & SHR	ผз	1	100.0	25	60	25
01-295-1-Q	VESTIBULE	W2	0	120.0	25	40	30
1-271-0-0	WET LAB	F 3	0	192.2	25	300	5
02-228-0-Q	HANGAR	C3	0	12.3	10	100	5

Compartment: 01-278-2-LW WR WC & SHR

.

USE: LW Wash room, water closet and shower areas

AREA: 39 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 392 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 98 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: | I FRI A M | Time | Time | Time | Too 999 0 30 | Than Failure | 100 999 0 40 | Than Failure | 35 * 0 0 | * calculated as (100 + * Heat Release)/100 ×

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment:	01-278-2-LW	WR WC & SHR
--------------	-------------	-------------

Barriers (Adjoining Compts ID and Name)		Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-255-6-LP 01-271-4-L 01-271-6-LW 01-271-8-L 1-271-2-Q	PASSAGE SCIENTIST SR WR WC & SHR SCIENTIST SR RECOMPRESSION AREA & DIV	W3 W3 W6 W3 E F3	0 1 0 0	49.0 80.0 49.0 80.0 39.2	25 25 10 25 25	60 60 100 60 300	25 25 5 5 5

Compartment: 01-292-2-LP PASSAGE

Zero strength barrier adjacent.

USE: LP Passageways

AREA: 175 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 1,756 cu.ft

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0001

FUEL LOAD: 3,200 BTUs/sq.ft.

Paint, cable insulation laminate on blkhds-no dropped ceiling

UENTILATION: 351 cu ft/min EXCHANGE TIME: 5.0 min.

UENT AREA: 625 sq.in. UENT HEIGHT: 12 in.

FIRE STARTED DUE TO:	1	I	FRI Time	A	M
Fire Origin		95	20	0	40
Tbar Failure	1	80	20	0	60
Dbar Failure	1	40	*	0	ß

* calculated as (100 - % Heat Release)/100 \times FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 30% of time in port and 50% of time at sea.

Automatic:

Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-292-2-LP PASSAGE

Barra (Adjoining Co	ers empts ID and Name;	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
01 055 0 15	500000				~		
01-255-6-LP	PASSAGE	ωo	0	40.0	0	0	100
01-271-2-Q	SCIENTIST LIBRARY/CONFERE	Ա2	1	210.0	25	40	30
01-292-4-L	SCIENTIST SR	W2	0	96.0	25	40	30
01-292-4-L	SCIENTIST SR	W2	0	1 5 5.0	25	40	3 Ú
01-292-8-L	SCIENTIST SR	W2	1	45.0	25	40	30
01-298-2-LW	WR WC & SHR	ωз	0	49.0	25	60	25
01-311-4-LW	WR WC & SHR	W6	0	50.0	10	100	5
01-311-4-LW	WR WC & SHR	ผз	0	76 .0	25	60	25
01-311-6-L	SCIENTIST SR	W6	1	95.0	10	100	5
01-312-2-Q	SCIENTIST COMM CENTER	W2	O	66.0	25	40	30
01-319-0-C	SCIENCE & WINCH CONTROL S	W2	1	40.0	25	40	3.0
1-223-2-LP	PASSAGE	F 3	0	110 4	25	300	5
1-271-2-Q	RECOMPRESSION AREA & DIVE	F3	Û	3.7	25	300	5
1-302-2-LW	WTR WC & SHR	F3	0	3.5	25	300	5
1-307-2-A	ARCTIC GEAR LOCKERSCIEN	FЗ	0	5 8 .0	25	300	5

Compartment: 01-292-4-L SCIENTIST SR

USE. L2 Berthing Space for 2

AREA: 148 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 1.488 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 16,869 BTUs/sq.ft. No. of people x 200/compt.area

UENTILATION: 297 cd ft/min EXCHANGE TIME:
UENT APRO: 175 sg in UENT HFIGHT: 98 in

UENT HEIGHT: 90 in. UENT AREA: 175 sq.in.

FIRE STARTED DUE TO: 1 I FRI A . Time Fire Origin 1 20 5 0 30 5 0 40 Thar Failure 1 15 **★** Ü Dbar Failure 5

> * calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic

Ionization smoke detection system (I) Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-292-4-L SCIENTIST SR

Barri (Adjoining Co	ers ompts ID and Name)	Mat ID	D∕H	Area- sq ft	Tbar	Dbar	%heat rel
01-255-6-LP 01-292-2-LP 01-292-2-LP 01-292-6-LW 01-298-2-LW 1-271-2-Q 1-302-2-LW	PASSAGE PASSAGE PASSAGE PASSAGE WR WC & SHR WR WC & SHR RECOMPRESSION AREA & DIVE WTR WC & SHR	W2 W2 W3 W3 F3 F3	1 0 0 0 1 0 0	96.0 96.0 155.0 70.0 85.0 117.3 31.5	25 25 25 25 25 25 25	40 40 40 60 300 300	30 30 35 25 25 5

COMPARTMENT FIRE SAFETY SUMMARY FOR

POLAR ICEBREAKER REPLACEMENT (drawings dated 5/12/1987)

Compartment: 01-292-6-LW WR WC & SHR

USE: LW Wash room, water closet and shower areas

AREA: 34 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 343 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 85 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

Figure calculated as (100 - % Heat Release)/100 / FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment:	01-292-6-LW	WR	MC 8	S. SHR					
Barri (Adjoining Co	ers mpts ID and Name)			Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-255-6-LP 01-292-4-L	PASSAGE SCIENTIST SR			M 3	0 0	49.0 70.0	25 25	60 60	25 25
01-292-8-L 01-298-2-LW 1-271-2-0	SCIENTIST SR WR WC & SHR RECOMPRESSION ARI	EA &	DIC	W3 W3 VE F3	1 0 0	70.0 49.0 34.3	25 25 25	60 60 300	25 25 5

Compartment: 01-292-8-L SCIENTIST SR

USE: L2 Berthing Space for 2

AREA: 180 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 1,801 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 18,824 BTUs/sq.ft.

No. of people x 200/compt.area

UENTILATION: 360 cu ft/min EXCHANGE TIME: UENT AREA: 175 sq.in. UENT HEIGHT: 90 in. 5.0 min.

FIRE STARTED DUE TO: I FRI A ı Time 1 20 5 0 30 Fire Origin 15 Thar Failure ļ 5 0 40 **★** 0 Dbar Failure 5 0

> * calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I)

Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable monoammonium phosphate fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-292-8-L SCIENTIST SR

Barriers (Adjoining Compts ID and Name)		Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-271-8-L 01-292-2-LP 01-292-6-LW 01-298-2-LW 01-311-6-L 1-271-2-Q	SCIENTIST SR PASSAGE WR WC & SHR WR WC & SHR SCIENTIST SR RECOMPRESSION AREA & DIV	W6 W2 W3 W3 W6 E F3	0 1 1 0 0	95.0 45.0 20.0 85.0 85.0	10 25 25 25 10 25	100 40 60 60 100 300	5 30 25 25 5

Compartment: 01-295-1-Q VESTIBULE (01 LEVEL)

Zero strength barrier below.

USE: QS Scientific Spaces

AREA: 528 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 5,280 cu.ft.

UNACCEPTABLE LOSS: Code 3 (Full compartment lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0023

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 1,056 cu ft/min EXCHANGE TIME:
UENT AREA: 200 sq.in. UENT HEIGHT: 90 in. 5.0 min.

UENT AREA: 200 sq.in.

FIRE STARTED DUE TO: I FRI A M ì Time | 90 999 0 30 | 90 999 0 40 | 0 * 0 0 Fire Origin Tbar Failure Dbar Failure 1

* calculated as (100 ~ % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 20% of time at sea.

Automatic:

Rate of temperature rise detection system (RR) Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-295-1-Q UESTIBULE (01 LEVEL)

Barri (Adjoining Co	ers mpts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-271-1-L 01-271-2-Q 01-277-5-L 01-311-2-Q 01-319-0-C 1-295-1-Q	SCIENTIST SR SCIENTIST LIBRARY/CONFERE SCIENTIST SR HOIST EQPT ROOM SCIENCE & WINCH CONTROL S VESTIBULE (MAIN DECK LEVE	ա2 ա2 ա2	0 0 0 0 0	100.0 159.0 120.0 81.0 220.0 528.0	25 25 25 25 25 25	40 40 40 40 40	30 30 30 30 30 100

(drawings dated 5/12/198/

Compartment: 01-298-2-LW WR WC & SHR

USE: LW Wash room, water closet and shower areas

AREA: 41 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 416 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 104 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: | I FRI A M | Time | Time | 100 999 0 30 | Thar Failure | 100 999 0 40 | Dbar Failure | 35 * 0 0 | That Failure | 100 999 0 40 | That Failure | 100 999 0 | That Failure | 100 999 0 | That Failure

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment:	01-298-2-16	WR WC & SHR
compar cmone.	0 1 - 2 2 0 - 2 - 110	

Barri (Adjoining Co	ers			Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-292-2-LP 01-292-4-L 01-292-6-LW 01-292-8-L 1-271-2-Q	PASSAGE SCIENTIST SR WR WC & SHR SCIENTIST SR RECOMPRESSION AREA	&	DIVE	W3 W3 W3 W3 F3	0 1 0 0	49.0 85.0 49.0 85.0 41.6	25 25 25 25 25	60 60 60 60 300	25 25 25 25 5

Compartment: 01-311-2-Q HOIST EQPT ROOM

USE: Q Areas usually unoccupied: engineering, electronics, galleys

AREA: 64 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 648 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 1.0000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0033

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 324 cu ft/min EXCHANGE TIME: 2.0 min.

UENT HEIGHT: 1 in. UENT AREA: 10 sq.in.

i I FRI FIRE STARTED DUE TO: А 1 Time Fire Origin 1 0 3 0 20 Thar Failure 0 3 0 40

FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 25% of time in port and 50% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Feb 02 1989

BARRIER FIRE SAFETY SUMMARY FOR POLAR ICEBREAKER REPLACEMENT (drawings dated 5/12/87)

Compartment: 01-311-2-Q HOIST EQPT ROOM

Barr: (Adjoining Co	iers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-271-2-Q 01-271-2-Q 01-295-1-Q 01-312-2-Q 01-319-0-C 1-287-2-Q 1-311-2-T	SCIENTIST LIBRARY/CONFERE SCIENTIST LIBRARY/CONFERE UESTIBULE SCIENTIST COMM CENTER SCIENCE & WINCH CONTROL S WET LAB NO.2 ELEVATOR	ա6 ա2 ա2	0 1 0 0 0	15.0 80.0 81.0 66.0 80.0 4.0 60.8	25 10 25 25 25 25 25	40 100 40 40 40 300 300	30 5 30 30 30 5

Compartment: 01-311-4-LW WR WC & SHR

IJSE: LW Wash room, water closet and shower areas

AREA: 38 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 380 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 95 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: | I FRI A M | Time | Ti

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compar cost of a straight of the straight of t	Compartment:	01-311-4-LW	WR WC & SHR
--	--------------	-------------	-------------

Barra (Adjoining Co	ers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-292-2-LP 01-292-2-LP 01-311-6-L 01-319-0-C 1-307-2-A	PASSAGE PASSAGE SCIENTIST SR SCIENCE & WINCH CONTROL S ARCTIC GEAR LOCKERSCIEN		0 0 1 0 0 	50.0 76.0 76.0 50.0 38.0	10 25 25 25 25	100 60 60 60 300	5 25 25 25 25 5

Compartment: 01-311-6-L SCIENTIST SR

USE: L2 Berthing Space for 2

AREA: 135 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 1,353 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 21,419 BTUs/sq.ft. No. of people x 200/compt.area

5.0 min.

UENTILATION: 270 cu ft/min EXCHANGE TIME: UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FRI A M FIRE STARTED DUE TO: l I ſ Time 1 20 5 0 30 Fire Origin 5 0 40 * 0 0 Tbar Failure 1 15 0 Dbar Failure 5

* calculated as (100 - % Heat Release)/100 \times FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I) Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-311-6-L SCIENTIST SR

Barr (Adjoining Co	iers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-292-2-LP 01-292-8-L 01-311-4-LW 01-319-0-C 1-307-2-A	PASSAGE SCIENTIST SR WR WC & SHR SCIENCE & WINCH CONTROL S ARCTIC GEAR LOCKERSCIEN		1 0 1 0 0	95.0 85.0 76.0 90.0 73.0	10 10 25 25 25	100 100 60 40 300	5 5 25 30 5
			2				

Compartment: 01-312-2-Q SCIENTIST COMM CENTER

USE: QS Scientific Spaces

AREA: 52 sq.ft. DECK HEIGHT: 10.0 ft. VOLUME: 528 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 1.0000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0023

FUEL LOAD: 28,000 BTUs/sq.ft.

UENTILATION: 58 cu ft/min EXCHANGE TIME: 9.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: | I FRI A M | Time | Time | 15 4 0 30 | Than Failure | 0 4 0 40 | Dhan Failure | 0 * 0 0 | * calculated as (100 - % Heat Release)/100 × FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 35% of time at sea.

Automatic:

Rate of temperature rise detection system (RR) Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-312-2-Q SCIENTIST COMM CENTER

Barriers (Adjoining Compts ID and Name)	Mat ID	D∕H 	Area- sq.ft.	Tbar	Dbar	%heat rel
01-271-2-Q SCIENTIST LIBRARY/C 01-292-2-LP PASSAGE	ONFERE W2	1 0	80.0 66.0	25 25	40 40	30 30
01-311-2-Q HOIST EQPT ROOM 01-319-0-C SCIENCE & WINCH CON 1-287-2-Q WET LAB NO.2	W2 TROL S W2 F3	0 0 0	66.0 80.0 52.8	25 25 25	40 40 300	30 30 5

Compartment: 01-319-0-C SCIENCE & WINCH CONTROL STATION

MCF: C. Chin and fine control promiting owner marrelly convered

USE: C Ship and fire control operating areas normally occupied.

AREA: 716 sq.ft. DECK HEIGHT: 10.0 ft. UOLUME: 7,164 cu.ft.

UNACCEPTABLE LOSS: Code 3 (Full compartment lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0012

FUEL LOAD: 8,000 BTUs/sq.ft.

UENTILATION: 1,791 cu ft/min EXCHANGE TIME: 4.8 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO:	1	I	FRI Time	Α	М
Fire Origin	1	80	8		70
Thar Failure	i	60	8	0	60
Dbar Failure	١	20	*	0	0
+ calculate	.d .e	(100	_ % L/a	a +	Palassa)/1

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Rate of temperature rise detection system (RR) Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

- 1 Hand portable monoammonium phosphate fire extinguisher
- 1 Hand portable Halon fire extinguisher (1301)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 01-319-0-C SCIENCE & WINCH CONTROL STATION

Barri (Adjoining Co	ers mpts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
01-292-2-LP 01-295-1-Q 01-311-2-Q 01-311-4-LW 01-311-6-L 01-312-2-Q 1-307-2-A 1-319-0-LP 1-326-0-Q 1-344-0-K	PASSAGE UESTIBULE HOIST EQPT ROOM WR WC & SHR SCIENTIST SR SCIENTIST COMM CENTER ARCTIC GEAR LOCKERSCIEN PASSAGE UENT TRUNK HAZARDOUS METALS ROOM	W2 W2 W3 W2 W2 F3 F3 F3	1 0 0 0 0 0 0	40.0 220.0 80.0 50.0 90.0 80.0 46.6 347.6 144.8 48.0	25 25 25 25 25 25 25 25 25 25	40 40 60	30 30 30 25 30 30 5 5

Compartment: 02-100-1-LL CO LOUNGE

USE: LL Lounge areas

AREA: 456 sq.ft. DECK HEIGHT: 9.0 ft. UOLUME: 4,111 cu.ft.

UNACCEPTABLE LOSS: Code 4 (2 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0006

FUEL LOAD: 24,800 BTUs/sq.ft.

From Lounge Burnout Rpt. 000278

UENTILATION: 1,027 cu ft/min EXCHANGE TIME:
UENT AREA: 400 sq.in. UENT HEIGHT: 90 in. 4.0 min.

UENT AREA: 400 sq.in.

FIRE STARTED DUE T	'O :	1	I	FRI Time	A	М
Fire Origin		1	20	5	0	30
Thar Failure		1	15	5	0	40
Dbar Failure		1	5	*	0	0
	* calculated	85	(100	- % He	at	Release)

FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 10% of time in port and 40% of time at sea.

Automatic:

Rate of temperature rise detection system (RR) Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable monoammonium phosphate fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-100-1-LL CO LOUNGE

Barr (Adjoining C	iers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-100-2-L 02-100-3-TS 02-100-3-TS 02-115-1-LP 02-120-2-L 02-129-1-Q 01-100-0-LL 01-126-1-Q 03-105-0-Q 03-129-1-TS	CO CABIN STAIRCASE STAIRCASE PASSAGE OFFICER SR PANTRY WARDROOM & LOUNGE OFFICER PANTRY RADIO ROOM STAIRCASE	W2 W6 W5 W2 W3 F3 F3 C3	1 0 1 1 0 1 0 0	156.6 18.0 107.1 133.2 83.7 162.0 397.4 59.4 417.2 1.2	25 10 5 25 25 25 25 25 10	40 100 80 40 40 60 300 100	35 50 35 30 35 55 55 55 55

Compartment: 02-100-2-L CO CABIN

USE: L Living quarters/medical/dental areas

AREA: 382 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 3,445 cu.ft

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 20,000 BTUs/sq.ft.

UENTILATION: 382 cu ft/min EXCHANGE TIME: 9.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

* calculated as (100 - % Heat Release)/100 \times FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 45% of time in port and 35% of time at sea.

Automatic:

Rate of temperature rise detection system (RR) Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable monoammonium phosphate fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-100-2-L CO CABIN

Barr: (Adjoining Co	iers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-100-1-LL 02-100-4-L 02-113-2-LW 02-120-2-L 02-121-2-LP 01-100-0-LL 01-100-2-LP 03-105-0-Q 03-111-2-LP 03-117-2-LW	CO LOUNGE CO SR WR WC & SHR OFFICER SR PASSAGE WARDROOM & LOUNGE PASSAGE RADIO ROOM PASSAGE WR & WC	W2 W3 W6 W6 F3 F3 C3 C3	1 0 0 1 0 0 0	156.6 93.6 63.0 162.0 36.0 313.2 69.6 272.0 34.0 24.0	25 25 10 10 25 25 10 10	40 40 60 100 300 300 100 100	30 30 55 55 55 55 55

Compartment: 02-100-3-TS STAIRCASE

USE: TS Staircases

AREA: 71 sq.ft. DECK HEIGHT: 9.0 ft. UOLUME: 642 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0001

FUEL LOAD: 800 BTUs/sq.ft.
Paint-no carpet or laminate

UENTILATION: 128 cu ft/min EXCHANGE TIME: 5.0 min.

UENT AREA: 10 sq.in. UENT HEIGHT: 1 in.

FIRE STARTED DUE TO: | I FRI A M Time

Fire Origin | 100 999 0 30

Thar Failure | 100 999 0 40

Dhar Failure | 90 * 0 0

* calculated as (100 ~ % Heat Release)/100 × FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 30% of time in port and 50% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-100-3-TS STAIRCASE

Barriers Ma (Adjoining Compts ID and Name) ID		H Area- sq.ft.		Dbar	%heat rel
02-100-1-LL CO LOUNGE W6 02-100-1-LL CO LOUNGE W5 02-100-5-L CHIEF SCIENTIST SR W5 02-115-1-LP PASSAGE W6 01-100-1-TS STAIRCASE F3 03-105-0-Q RADIO ROOM C3	0 1 0 1 1 0	18.0 107.1 107.1 36.0 71.4 57.0	10 5 5 10 25	100 80 80 100 300 100	55 55 55

Compartment: 02-100-4-L CO SR

·

USE: L1 Berthing Space for 1

AREA: 375 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 3,379 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 4,244 BTUs/sq.ft.

No. of people x 200/compt.area

UENTILATION: 375 cu ft/min EXCHANGE TIME: 9.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO:	 	I	FRI Time	А	M
Fire Origin	1	20	5	0	30
Thar Failure	1	15	5	0	40
Dbar Failure	1	5	*	0	0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I)
Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable monoammonium phosphate fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-100-4-L CO SR

Barriers (Adjoining Compts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-100-2-L CO CABIN 02-113-2-LW WR WC & SHR 02-113-2-LW WR WC & SHR 02-120-6-L UISITOR SR 01-100-4-L CPO BERTHING 01-106-2-LW WR WC & SHR 01-113-2-L CPO BERTHING 03-106-2-A ELECTRONIC SHOP	W2 W3 W6 W2 F3 F3 F3 C3	1 0 1 0 0 0	93.6 63.0 81.0 145.8 139.2 48.0 63.0 312.0	25 25 10 25 25 25 25	40 60 100 40 300 300 300	30 25 5 30 5 5 5

Compartment: 02-100-5-L CHIEF SCIENTIST SR

USE: L1 Berthing Space for 1

AREA: 424 sq.ft. DECK HEIGHT: 9.0 ft. UOLUME: 3,820 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 3,342 BTUs/sq.ft.

No. of people x 200/compt.area

UENTILATION: 424 cu ft/min EXCHANGE TIME: UENT AREA: 175 sq.in. UENT HEIGHT: 90 in. 9.0 min.

UENT AREA: 175 sq.in.

FIRE STARTED DUE TO: i I FRI A L Time 1 20 5 0 30 Fire Origin Tbar Failure 1 15 5 0 40 ***** 0 Dbar Failure 5 Û - 1

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I)

Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable monoammonium phosphate fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-100-5-L CHIEF SCIENTIST SR

						 -	
Barri (Adjoining Co	ers mpts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-100-3-TS 02-115-1-LP	STAIRCASE Passage	ա5 աշ	0 1	107.1 63.0	5 25	80 40	5 30
02-116-1-LW	WR WC & SHR	ωз	1	54.0	25	60	25
02-116-1-LW	WR WC & SHR	WЗ	0	54.0	25	60	25
02-116-1-LW	wr wc & shr	₩6	0	72.0	10	100	5
02-122-1-LW	WR WC & SHR	W :3	0	36.0	25	60	25
02-122-3-L	OFFICER SR	W2	0	117.0	25	40	3.0
01-100-3-L	OFFICER SR	F3	0	210.7	25	300	5
01-111-1-LW	WR WC & SHR	F3	0	46.5	25	300	5 5
01-118-1-LW	WR WC & SHR	F3	υ	14.0	25	300	
01-118-3-L	OFFICER SR	F 3	0	21.0	25	300	5
03-105-1-A	ELECTRONIC EQUIPMENT ROOM	1 C3	0	343.3	10	100	5

Compartment: 02-113-2-LW WR WC & SHR

USE: LW Wash room, water closet and shower areas

63 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 567 cq.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 141 cu ft/min EXCHANGE TIME: 4.0 min.

VENT HEIGHT: 90 in. UENT AREA: 175 sq.in.

FRI A l I FIRE STARTED DUE TO: - 1 Time 1 100 999 0 30 Fire Origin Thar Failure 1 100 999 0 40 Dbar Failure 35 * calculated as (100 - % Heat Release)/100 \times

FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

${\tt Compartment:}$	02-113-2-LW	WR WC & SHR
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Barr (Adjoining Co	iers ompts ID and Name)	Mat ID	D/H	Area-	Tbar	Dbar	%heat rel
02-100-2-L 02-100-4-L 02-100-4-L 02-120-4-LW 01-113-2-L 01-117-2-LW 03-106-2-A	CO CABIN CO SR CO SR WR WC & SHR CPO BERTHING WR WC & SHR ELECTRONIC SHOP	W3 W6 W3 F3 F3 C3	0 0 1 0 0 0	63.0 63.0 81.0 81.0 39.0 24.0	25 25 10 25 25 25 10	60 60 100 60 300 300	25 25 5 25 5 5 5

COMPARTMENT FIRE SAFETY SUMMARY FOR POLAR ICEBREAKER REPLACEMENT

(drawings dated 5/12/1987)

Compartment: 02-115-1-LP PASSAGE

Zero strength barrier adjacent.

abto butting in ball to tagleone.

USE: LP Passageways

AREA: 339 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 3,052 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0001

FUEL LOAD: 3,200 BTUs/sq.ft.

Paint, cable insulation laminate on blkhds-no dropped ceiling

UENTILATION: 610 ou ft/min EXCHANGE TIME: 5.0 min.

UENT AREA: 1375 sq.in. UENT HEIGHT: 12 in.

FIRE STARTED DUE TO:	l 1	I	FRI Time	A	M
Fire Origin	!	95	20	0	40
Tbar Failure	!	80	20	U	60
Dbar Failure	Į.	40	*	Ŋ	0

* calculated as $(100 - % Heat Release)/100 \times FRI Time or 2 min., whichever is greater.$

DETECTION:

Manual:

Occupied 30% of time in port and 50% of time at sea.

Automatic:

Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable monoammonium phosphate fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-115-1-LP PASSAGE

Compartment: 02-116-1-LW WR WC & SHR

USE: LW Wash room, water closet and shower areas

AREA: 48 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 432 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 108 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: | I FRI A M | Time | Time | 100 999 0 30 | Than Failure | 100 999 0 40 | Than Failure | 135 * 0 0 | * calculated as (100 - % Heat Release)/100 × FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-116-1-LW WR WC & SHR

Barri (Adjoining Co	ers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-100-5-L 02-100-5-L 02-100-5-L 02-122-1-LW 02-122-3-L 01-111-1-LW 01-118-1-LW 01-118-3-L 03-105-1-A	CHIEF SCIENTIST SR CHIEF SCIENTIST SR CHIEF SCIENTIST SR WR WC & SHR OFFICER SR WR WC & SHR WR WC & SHR OFFICER SR ELECTRONIC EQUIPMENT ROOM	W3 W6 W3 W3 F3 F3 F3	1 0 0 0 0 0	54.0 54.0 72.0 45.0 27.0 20.0 14.0 48.0	25 25 10 25 25 25 25 25	60 60 100 60 300 300 300	25 25 25 25 25 5 5 5

Compartment: 02-120-2-L OFFICER SR

USE: L1 Berthing Space for 1

AREA: 288 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 2,600 cq.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 6,129 BTUs/sq.ft.

No. of people x 200/compt.area

UENTILATION: 325 cq ft/min EXCHANGE TIME: UENT AREA: 175 sq.in. UENT HEIGHT: 90 in. 8.0 min.

FIRE STARTED DUE TO: l I FRI 1 Time Fire Origin l 20 **5 0** 30 1 15 5 0 40 Tbar Failure Dbar Failure 5 1 **★** 0 0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I)

Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-120-2-L OFFICER SR

Barri (Adjoining Co	ers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-100-1-LL 02-100-2-L 02-121-2-LP 02-121-2-LP 02-129-1-Q 02-129-1-Q 02-132-2-LW 02-132-2-LW 01-100-0-LL 03-105-0-Q 03-111-2-LP 03-117-2-LW	CO LOUNGE CO CABIN PASSAGE PASSAGE PANTRY PANTRY WR WC & SHR WR WC & SHR WARDROOM & LOUNGE RADIO ROOM PASSAGE WR & WC	W2 W6 W2 W3 W3 W3 F3 C3 C3	0 0 1 0 0 0 0 1 0	83.7 162.0 76.5 191.7 27.0 27.0 58.5 81.0 288.9 260.4 19.6 9.0	25 10 25 25 25 25 25 25 25 10 10	40 100 40 40 60 60 60 300 100 100	30 5 30 30 25 25 25 5 5

Compartment: 02-120-4-LW WR WC & SHR

USE: LW Wash room, water closet and shower areas

AREA: 63 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 567 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

VENTILATION: 141 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: l I FRI A Time ___________ Fire Origin Thar Failure 1 100 999 0 30 1 100 999 0 40 Dbar Failure 35

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-120-4-LW WR WC & SHR

Barr: (Adjoining Co	iers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-113-2-LW	wr wc & shr	W3	8	81.0	25	60	25
02-120-6-L	UISITOR SR	WЗ	0	63.0	25	60	25
02-120-6-L	UISITOR SR	W3	1	81.0	2 5	60	25
02-121-2-LP	PASSAGE	ผ3	0	63.0	25	60	25
01-113-2-L	CPO BERTHING	F 3	0	15.0	25	300	5
01-117-2-LW	WR WC & SHR	F3	0	30.0	25	300	5
01-125-2-LW	WR WC & SHR	F 3	0	12.0	25	300	5
01-125-4-L	CPO BERTHING	F3	0	6.0	. 25	300	5
03-106-2-A	ELECTRONIC SHOP	C3	0	6 3 .0	10	100	5

Compartment: 02-120-6-L UISITOR SR

• -____

USE: L1 Berthing Space for 1

AREA: 340 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 3,061 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 4,923 BTUs/sq.ft.
No. of people x 200/compt.area

UENTILATION: 382 cu ft/min EXCHANGE TIME: 8.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: 1 I FRI A i Time Fire Origin 1 20 5 0 30 Tbar Failure 1 15 5 0 40 * 0 Dbar Failure 1 5 0

* calculated as $(100 - % Heat Release)/100 \times FRI Time or 2 min., whichever is greater.$

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I)
Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable monoammonium phosphate fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-120-6-L UISITOR SR

Barriers (Adjoining Compts ID and Name)		Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-100-4-L 02-120-4-LW 02-120-4-LW 02-121-2-LP 02-136-2-LW 02-136-4-L 01-113-2-L 01-125-2-LW 01-125-4-L 03-106-2-A 03-132-2-A	CO SR WR WC & SHR WR WC & SHR PASSAGE WR WC & SHR OFFICER SR CPO BERTHING WR WC & SHR CPO BERTHING ELECTRONIC SHOP ELECTRONIC STOREROOM	W2 W3 W2 W3 W2 F3 F3 C3	0 0 1 1 0 0 0	145.8 63.0 81.0 81.0 72.0 154.8 45.0 36.0 144.0 237.0	25 25 25 25 25 25 25 25 25 10	40 60 60 40 60 40 300 300 100	30 25 25 20 25 30 55 55 55
			2				

Compartment: 02-121-2-LP PASSAGE

Zero strength barrier adjacent.

USE: LP Passageways

AREA: 317 sg.ft. DECK HEIGHT: 9.0 ft. UOLUME: 2,854 cq.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire:

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0001

FUEL LOAD: 3,200 BTUs/sq.ft.

Paint, cable insulation laminate on blkhds-no dropped ceiling

UENTILATION: 570 cu ft/min EXCHANGE TIME: 5.0 min.

UENT AREA: 1375 sq.in. UENT HEIGHT: 12 in.

FIRE STARTED DUE TO:		I	FRI Time	Α	M 	
Fire Origin	!	95	20	0	40	
Than Failure	!	80	20	0	60	
Dbar Failure	1	40	*	U	U	

* calculated as $(100 - \% \text{ Heat Release})/100 \times \text{FRI Time or 2 min., whichever is greater.}$

DETECTION:

Manual:

Occupied 30% of time in port and 50% of time at sea.

Automatic:

Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable monoammonium phosphate fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-121-2-LP PASSAGE

	iers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.			%heat rel
02-100-2-L	CO CABIN	₩6	1	36.0	10	100	5
02-115-1-LP	PASSAGE	ωo	0	36.0	0	0	100
02-120-2-L	OFFICER SR	W2	1	<i>7</i> 6.5	25	40	30
02-120-2-L		W2	0	191.7	25	40	3.0
02-120-4-LW		WЗ	0	63.0	25	60	25
02-120-6-L		W2	1	81.0	25	40	30
02-129-1-Q		ωз	0	27.0	25	60	25
02-132-2-LW		WЗ	0	58.5	25	60	25
02-136-2-LW	WR WC & SHR	WЗ	0	36.0	25	60	25
02-136-2-LW	WR WC & SHR	WЗ	0	47.7	25	60	25
02-136-4-L	OFFICER SR	W2	1	60.3	2 5	40	30
02-145-0- T U		พย	O	144.0	80	100	5
02-145-2-TS	STAIRCASE	W 5	0	54.0	5	80	5
02-145-2-TS	STAIRCASE	พ 5	2	108.0	5	80	5
02-148-2-L		W2	1	27.0	25	40	3.0
02-152-2-LW	WR WC & SHR	ωз	Ü	92.7	25	60	25
02-158-2-A	GEAR LOCKER	W2	1	36.0	25	40	3.0
02-162-2-A	STOREROOM	W2	1	144.0	25	40	30
02-162-4-LW	WR WC & SHR	WЗ	0	28.3	25	60	25
02-162-6-L	OFFICER SR	W2	1	65.7	25	40	30
02-178-2-W	ROLL STABILIZATION TANK	Me	0	36.0	10	100	5
01-100-2-LP	PASSAGE	F3	0	253.2	25	300	5
01-162-2-LP	PASSAGE	F3	0	40.6	25	300	5 5
01-162-4-LW	WR WC & SHR	F3	0	15 4		300	
01-162-6-L	CPO BERTHING	F3	0	8.0	25	300	5 5
03-111-2-LP	PASSAGE	C3	0	254.0	10	100	
03-162-2-Q	FAN ROOM	C3	0	63.2	10	100	5

Compartment: 02-122-1-LW WR WC & SHR

•

USE: LW Wash room, water closet and shower areas

AREA: 58 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 526 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 131 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

* calculated as (100 - % Heat Release)/100 \times FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-122-1-LW WR WC & SHR

Barr			D/H	Area-	Tbar	Dbar	%heat
(Adjoining Co	ompts ID and Name)	ID		sq.ft.		_	rel
02-100-5-L	CHIEF SCIENTIST SR	WЗ	0	36.0	25	60	25
02-115-1-LP	PASSAGE	ผ3	0	58.5	25	60	25
02-116-1-LW	WR WC & SHR	WЗ	0	45.0	25	60	25
02-122-3-L	OFFICER SR	W3	0	58.5	25	60	25
02-122-3-L	OFFICER SR	ΜЗ	1	81.0	25	60	25
01-118-1-LW	WR WC & SHR	F3	υ	12.0	25	300	5
01-118-3-L	OFFICER SR	F3	0	46.5	25	300	5
03-105-1-A	ELECTRONIC EQUIPMENT ROC	DM C3	0	5 8.5	10	100	5

Compartment: 02-122-3-L OFFICER SR

USE: L1 Berthing Space for 1

AREA: 304 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 2,736 cq.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 5,392 BTUs/sq.ft.
No. of people x 200/compt.area

UENTILATION: 342 cu ft/min EXCHANGE TIME: 8.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: | I FRI A M | Time | | 20 5 0 30 | Thar Failure | 15 5 0 40 | Dhar Failure | 5 * 0 0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea. Automatic:

Ionization smoke detection system (I) Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable monoammonium phosphate fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-122-3-L OFFICER SR

Barri (Adjoining Co	ers mpts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-100-5-L 02-115-1-LP 02-116-1-LW 02-122-1-LW 02-122-1-LW 02-136-1-LW 02-136-3-L 01-118-3-L 01-132-1-LW 01-132-1-LW 01-132-3-L 03-105-1-A	CHIEF SCIENTIST SR PASSAGE WR WC & SHR WR WC & SHR WR WC & SHR WR WC & SHR OFFICER SR OFFICER SR WR WC & SHR OFFICER SR ELECTRONIC EQUIPMENT	W2 W2 W3 W3 W3 W2 F3 F3 F3	0 1 0 0 1 0 0 0 0	117.0 72.0 27.0 58.5 81.0 72.0 153.0 121.5 27.0 54.0	25 25 25 25 25 25 25 25 25 25 25	40 40 60 60 60 40 300 300 300	30 30 25 25 25 30 55 5

Compartment: 02-129-1-Q PANTRY

USE: Q Areas usually unoccupied: engineering, electronics, galleys

AREA: 236 sq.ft. DECK HEIGHT: 9.0 ft. UOLUME: 2,131 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 1.0000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0021

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 5,328 cu ft/min EXCHANGE TIME: 0.4 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO:	 	I	FRI Time	A	М
Fire Origin	1	90	6	0	20
Tbar Failure	i	70	6	0	40
Dbar Failure	1	50	*	0	0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 20% of time in port and 50% of time at sea.

Automatic:

Rate of temperature rise detection system (RR) Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable carbon dioxide fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-129-1-Q PANTRY

Barr: (Adjoining Co	iers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-100-1-LL	CO LOUNGE	ω3	1	162.0	25	60	25
02-115-1-LP	PASSAGE	นี3	õ	108.0	25	60	25
02-115-1-LP	PASSAGE	W3	0	126.0	25	60	25
02-120-2-L	OFFICER SR	ω .3	0	27.0	25	60	25
02-120-2-L	OFFICER SR	พз	0	27 0	25	60	25
02-121-2-LP	PASSAGE	ωз	0	27.0	25	60	25
02-132-2-LW	WR WC & SHR	W3	0	81.0	25	60	25
02-138-1-T	DUMB WAITER	ພ5	0	34.2	5	80	5
02-138-1-T	DUMB WAITER	ພ5	1	34.2	5	80	5 5
02-138-1-T	DUMB WAITER	W 5	Ü	36.0	5	80	
01-100-0-LL	WARDROOM & LOUNGE	F 3	0	36.0	25	300	5
01-126-1-Q	OFFICER PANTRY	F3	0	200.0	25	300	
03-105-0-Q	RADIO ROOM	C3	0	160.4	10	100	5 5
03-111-2-LP	PASSAGE	C3	0	6.9	10	100	
03-129-1-TS	STAIRCASE	C3	0	37.3	10	100	5
03-140-1-LP	PASSAGE	C3	0	32.2	10	100	5

Compartment: 02-132-2-LW WR WC & SHR

*

USE: LW Wash room, water closet and shower areas

AREA: 58 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 526 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 131 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-132-2-LW WR WC & SHR

Barri (Adjoining Co	iers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-120-2-L 02-120-2-L 02-121-2-LP 02-129-1-Q 01-100-0-LL 03-105-0-Q 03-111-2-LP	OFFICER SR OFFICER SR PASSAGE PANTRY WARDROOM & LOUNGE RADIO ROOM PASSAGE	W3 W3 W3 F3 C3	0 1 0 0 0	58.5 81.0 58.5 81.0 58.5 43.5	25 25 25 25 25 10	60 60 60 300 100	25 25 25 25 5 5

Compartment: 02-136-1-LW WR WC & SHR

USE: LW Wash room, water closet and shower areas

AREA: 42 sq.ft. DECK HEIGHT: 9.0 ft. UOLUME: 381 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 95 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 150 sq.in. UENT HEIGHT: 90 in.

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea. Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

--1

Compartment: 02-136-2-LW WR WC & SHR

.

USE: LW Wash room, water closet and shower areas

AREA: 42 sg.ft. DECK HEIGHT: 9.0 ft. VOLUME: 381 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 95 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 150 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: | I FRI A M | Time

Fire Origin | 100 999 0 30 | Thar Failure | 100 999 0 40 | Dhar Failure | 35 * 0 0 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea. Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS: *

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment:	02-136-2-LW	WR	ωc	£	SHR
--------------	-------------	----	----	---	-----

Barr (Adjoining C	iers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-120-6-L 02-121-2-LP 02-121-2-LP 02-136-4-L 02-136-4-L 01-100-2-LP 01-125-4-L 03-111-2-LP	UISITOR SR PASSAGE PASSAGE OFFICER SR OFFICER SR PASSAGE CPO BERTHING PASSAGE	W3 W3 W3 W3 W3 F3 F3	0 0 0 1 0 0	72.0 36.0 47.7 36.0 47.7 34.4 8.0 5.2	25 25 25 25 25 25 25 25	60 60 60 60 60 300 300	25 25 25 25 25 25 5 5
03-132-2-A	ELECTRONIC STOREROOM	C3	0	37.2	10	100	5

Compartment: 02-136-3-L OFFICER SR

USE: L1 Berthing Space for 1

AREA: 209 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 1,888 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 7,833 BTUs/sq.ft. No. of people x 200/compt.area

UENTILATION: 236 cu ft/min EXCHANGE TIME: 8.0 min. UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

1 I FRI A FIRE STARTED DUE TO: Time 1 20 5 0 30 Fire Origin Thar Failure 1 15 5 0 40 Dbar Failure 5 **⋆** ໓ ٥

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I) Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-136-3-L OFFICER SR

	D 		sq.ft.		DDar	%heat rel
02-115-1-LP PASSAGE	2 3 3 3 3 3 3 3	1 0 1 0 0 0 0 0 0	51.3 153.0 36.0 47.7 189.0 56.0 53.0 10.2 13.6 192.6 11.4	25 25 25 25 25 25 25 25 25 25 10	40 40 60 60 40 300 300 300 100	30 30 25 25 30 5 5 5 5

Compartment: 02-136-4-L OFFICER SR

USE: L1 Berthing Space for 1

AREA: 233 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 2,098 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 7,119 BTUs/sq.ft. No. of people x 200/compt.area

262 cu ft/min EXCHANGE TIME: 8.0 min. '5 sq.in. UENT HEIGHT: 90 in. **UENTILATION:**

UENT AREA: 175 sq.in.

FIRE STARTED DUE TO:	1	I	FRI Time	А	М
Fire Origin	1	20	5	0	30
Tbar Failure	1	15	5	0	40
Dbar Failure	i	5	*	0	O

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I) Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-136-4-L OFFICER SR

Barriers (Adjoining Compts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-120-6-L UISITOR SR 02-121-2-LP PASSAGE 02-136-2-LW WR WC & SHR 02-136-2-LW WR WC & SHR 02-148-2-L OFFICER SR 01-100-2-LP PASSAGE 01-125-4-L CPO BERTHING 01-142-2-L CPO BERTHING 03-132-2-A ELECTRONIC STOREROOM	W2 W3 W3 W2 F3 F3 F3	0 1 1 0 0 0 0	154.8 60.3 36.0 47.7 190.8 52.8 10.0 84.0 230.8	25 25 25 25 25 25 25 25	40 40 60 60 40 300 300 300	30 30 25 25 30 55 55 5

Compartment: 02-138-1-T DUMB WAITER

USE: T Elevators, dumb waiters

AREA: 15 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 136 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 1.0000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0001

FUEL LOAD: 4,000 BTUs/sq.ft.

Accumulated dust and grease and cable insulation

UENTILATION: 68 cu ft/min EXCHANGE TIME: 2.0 min.

UENT AREA: 10 sq.in. UENT HEIGHT: 1 in.

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 5% of time at sea.

Automatic:

Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-138-1-T DUMB WAITER

Barr (Adjoining Co	iers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-115-1-LP 02-129-1-Q 02-129-1-Q 02-129-1-Q 01-138-1-T 03-105-0-Q 03-129-1-TS 03-140-1-LP	PASSAGE PANTRY PANTRY PANTRY DUMB WAITER RADIO ROOM STAIRCASE PASSAGE	W5 W5 W5 F3 C3 C3	0 0 1 0 0 0	36.0 34.2 34.2 36.0 15.2 4.5 1.5 9.2	5 5 5 25 10 10	30 80 80 80 300 100 100	ភភ ភភ ភភ ភភ
			1				

Compartment: 02-145-1-A STOREROOM

USE: AS Storerooms

AREA: 96 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 864 cq.ft.

UNACCEPTABLE LOSS: Code 4 (2 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.3300 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0009

FUEL LOAD: 1,440,000 BTUs/sq.ft.

Boxes of flammable stores--Fuel load in psf = 20 x height of deck

UENTILATION: 86 cu ft/min EXCHANGE TIME: 10.0 min.

UENT AREA: 10 sq.in. UENT HEIGHT: 1 in.

FIRE STARTED DUE TO:	 	I	FRI Time	А	М
Fire Origin	1	30	4	0	30
Thar Failure	1	20	4	0	20
Dbar Failure	1	10	*	0	0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 5% of time at sea.

Automatic:

Rate of temperature rise detection system (RR) Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Barriers (Adjoining Compts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-115-1-LP PASSAGE 02-115-1-LP PASSAGE 02-145-0-TU UPTAKE 1 02-162-1-TS STAIRCASE 01-114-1-LP PASSAGE 01-153-1-A STOREROOM 03-147-1-A STOREROOM 03-157-1-A STOREROOM	W2 W2 W8 W6 F3 F3 C3	0 1 0 0 0 0	54.0 144.0 144.0 54.0 46.2 49.8 70.2 25.8	25 25 80 10 25 25 10	40 40 100 100 300 300 100	30 30 5 5 5 5 5 5

COMPARTMENT FIRE SAFETY SUMMARY FOR POLAR ICEBREAKER REPLACEMENT

(drawings dated 5/12/1987)

Compartment: 02-145-2-TS STAIRCASE

-

USE: TS Staircases

AREA: 72 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 648 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0001

FUEL LOAD: 800 BTUs/sq.ft.
Paint-no carpet or laminate

UENTILATION: 129 cu ft/min EXCHANGE TIME: 5.0 min.

UENT AREA: 10 sq.in. UENT HEIGHT: 1 in.

FIRE STARTED DUE TO:	1	I	FRI Time	A	М
Fire Origin	1	100	999	0	30
Tbar Failure	1	100	999	0	40
Dbar Failure	1	90	*	0	0

* calculated as (100 - % Heat Release)/100 \times FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 30% of time in port and 50% of time at sea. Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment:	02-145-2-TS	STAIRCASE					
Barra (Adjoining Co	mpts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-121-2-LP 02-121-2-LP 02-145-0-TU 02-158-2-A 01-100-2-LP 01-145-2-TS 03-145-2-TS 03-157-2-A	PASSAGE PASSAGE UPTAKE 1 GEAR LOCKER PASSAGE STAIRCASE STAIRCASE GEAR LOCKER	W5 W5 W5 F3 F3 C3	0 2 0 0 0 1 1	54.0 108.0 108.0 54.0 1.8 70.2 70.2	5 80 5 25 25 10	80	5 5 5 5 5 5 5 5 5
			4				

Compartment: 02-146-1-L OFFICER SR

Compartment: 02-146-1-L Officer Sr

USE: L1 Berthing Space for 1

AREA: 249 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 2,242 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 6,514 BTUs/sq.ft.

No. of people x 200/compt.area

UENTILATION: 280 cu ft/min EXCHANGE TIME: 8.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE ST	ARTED	DUE	TO:	ł 1	I	FRI Time	A	М
Fir	e Orig	ιin		 1	20	5	0	30
	r Fail			Į	15	5	0	40
Dha	r Fail			1	5	*	Ω	n

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I)
Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-146-1-L OFFICER SR

Barriers (Adjoining Compts ID and Name)			D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-115-1-LP 02-136-3-L 02-154-1-LW 02-154-1-LW 02-162-3-L 01-146-1-LW 01-146-3-L 03-105-1-A 03-140-1-LP	PASSAGE OFFICER SR WR WC & SHR WR WC & SHR OFFICER SR WR WC & SHR OFFICER SR ELECTRONIC EQUIPMENT ROOM PASSAGE HAM SHACK	W2 W3 W3 W6 F3 C3 C3	1 0 1 0 0 0 0	63.0 189.0 63.0 65.7 126.0 36.0 113.1 202.6 14.0 29.9	25 25 25 25 10 25 25 10	40 40 60 100 300 300 100 100	30 30 25 25 5 5 5 5

Compartment: 02-148-2-L OFFICER SR

USE: L2 Berthing Space for 2

AREA: 209 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 1,889 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 15,176 BTUs/sq.ft.

No. of people x 200/compt.area

UENTILATION: 236 cu ft/min EXCHANGE TIME: UENT AREA: 175 sq.in. UENT HEIGHT: 98 in. 8.0 min.

UENT AREA: 175 sq.in.

FIRE	STARTED	DUE	TO:	1	<u> </u>	I	FRI Time	A	М
I	Fire Ori	gin		ا		20	5	0	30
	Char Fai			(15	5	0	40
	ar Fai	lure		1		5	*	٥	٥

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I) Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment:	02-148-2-L	OFFICER SR
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Barriers (Adjoining Compts ID and Name)		Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-121-2-LP	PASSAGE	W2	1	27.0	25	40	30
02-136-4-L	OFFICER SR	W2	Ō	190.8	25	40	30
02-152-2-LW	WR WC & SHR	W3	0	63.0	2 5	60	25
02-152-2-LW	WR WC & SHR	WЗ	1	92.7	25	60	25
02-162-6-L	OFFICER SR	ω6	0	127.8	10	100	5
01-142-2-L	CPO BERTHING	F3	0	114.1	25	300	5
03-132-2-A	ELECTRONIC STOREROOM	C3	0	207.2	10	100	5

COMPARTMENT FIRE SAFETY SUMMARY FOR POLAR ICEBREAKER REPLACEMENT

(drawings dated 5/12/1987)

Compartment: 02-152-2-LW WR WC & SHR

USE: LW Wash room, water closet and shower areas

AREA: 72 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 648 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 162 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: | I FRI A M Time

Fire Origin | 100 999 0 30
Thar Failure | 100 999 0 40
Dbar Failure | 35 * 0 0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-154-1-LW WR WC & SHR

Barr (Adjoining C	iers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-115-1-LP 02-146-1-L 02-146-1-L 02-162-3-L 01-146-3-L 03-140-1-LP 03-154-1-Q	PASSAGE OFFICER SR OFFICER SR OFFICER SR OFFICER SR PASSAGE HAM SHACK	W3 W3 W6 F3 C3	0 1 0 0 0 0	65.7 63.0 65.7 63.0 51.1 14.6 36.5	25 25 25 10 25 10	60 60 100 300 100	25 25 25 5 5 5

Compartment: 02-158-2-A GEAR LOCKER

USE: AG Small Storage Spaces -- Gear Lockers

24 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 216 cu.ft.

UNACCEPTABLE LOSS: Code 4 (2 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 1.0000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0009

FUEL LOAD: 1,080,000 BTUs/sq.ft.

Fuel load in psf = $15 \times \text{height of deck}$.

UENTILATION: 21 cu ft/min EXCHANGE TIME: 10.0 min. UENT AREA: 10 sq.in. UENT HEIGHT: 1 in.

FIRE STARTED DUE TO: 1 I FRI A Time 1 20 3 0 40 Fire Origin Thar Failure 10 3 0 30 ١ Dbar Failure 0 Ð Ð

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 10% of time at sea. Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-1	58-2-A	GEAR	LOCKER					
Barriers (Adjoining Compts	ID and Name	·)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-145-0-TU UPT 02-145-2-TS STA 02-162-2-A STO 01-100-2-LP PAS	SAGE PAKE 1 RIRCASE REROOM SAGE R LOCKER		W2 W8 W5 W6 F3 C3	1 0 0 0 0	36.0 36.0 54.0 54.0 24.0 24.0	25 80 5 10 25	40 100 80 100 300 100	30 5 5 5 5 5

Compartment: 02-158-2-A GEAR LOCKER

Barriers (Adjoining Compts ID and Name)		Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-121-2-LP 02-145-0-TU 02-145-2-TS 02-162-2-A 01-100-2-LP 03-157-2-A	PASSAGE UPTAKE 1 STAIRCASE STOREROOM PASSAGE GEAR LOCKER	W2 W8 W5 W6 F3 C3	1 0 0 0 0	36.0 36.0 54.0 54.0 24.0	25 80 5 10 25	40 100 80 100 300 100	30 5 5 5 5 5

Compartment: 02-162-1-TS STAIRCASE

USE: TS Staircases

AREA: 96 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 864 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0001

800 BTUs/sq.ft. FUEL LOAD:

Paint-no carpet or laminate

172 cu ft/min EXCHANGE TIME: Sq.in. UENT HEIGHT: 1 in. UENTILATION: 5.0 min.

UENT AREA: 10 sq.in.

I FRI A FIRE STARTED DUE TO: Time I 100 999 0 30 Fire Origin Than Failure 1 100 999 0 40 Thar Failure

* calculated as (100 - % Heat Release)/100 \times FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 30% of time in port and 50% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-162-1-TS STAIRCASE

Barriers (Adjoining Compts ID and Name)		Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-115-1-LP 02-145-1-A 02-162-0-TU 02-178-1-LP 02-178-3-W 01-162-1-TS 01-162-3-LP 03-140-1-LP 03-157-1-A	PASSAGE STOREROOM UPTAKE 2 PASSAGE ROLL STABILIZATION TANK STAIRCASE PASSAGE PASSAGE STOREROOM	W5 W6 W8 W5 W6 F3 F3 C3	1 0 0 1 0 1	144.0 54.0 144.0 36.0 18.0 76.2 19.8 18.5 1.2	5 10 80 5 10 25 25 10	80 100 100 80 100 300 300 100	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
03-162-1-A 03-165-1-TS	GEAR LOCKER STAIRCASE	C3	0 1	21.0 55.3	10 10	100 100	5 5

COMPARTMENT FIRE SAFETY SUMMARY FOR

POLAR ICEBREAKER REPLACEMENT (drawings dated 5/12/1987)

Compartment: 02-162-2-A STOREROOM

USE: AS Storerooms

AREA: 96 sq.ft. DECK HEIGHT: , 0 ft. VOLUME: 864 cu.ft.

UNACCEPTABLE LOSS: Code 4 (2 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.3388 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0009

FUEL LOAD: 1,440,000 BTUs/sq.ft.

Boxes of flammable stores -- Fuel load in psf = 20 x height of deck

UENTILATION: 86 cu ft/min EXCHANGE TIME: 10.0 min. UENT AREA: 10 sq.in. UENT HEIGHT: 1 in.

FIRE STARTED DUE TO: | I FRI A M | Time | | 30 4 0 30 | Thar Failure | 20 4 0 20 | That Failure | 10 * 0 0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 5% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-162-2-A STOREROOM

Barriers (Adjoining Compts ID and Name)		Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-121-2-LP 02-158-2-A 02-162-0-TU 02-178-2-W 01-162-2-LP 03-157-2-A 03-162-2-Q	PASSAGE GEAR LOCKER UPTAKE 2 ROLL STABILIZATION TANK PASSAGE GEAR LOCKER FAN ROOM	W2 W6 W6 F3 C3	1 0 0 0 0 0	144.0 54.0 144.0 54.0 96.0 1.2 94.8	25 10 80 10 25 10	40 100 100 100 300 100	3 5 5 5 5 5 5

Compartment: 02-162-3-L OFFICER SR

USE: L2 Berthing Space for 2

AREA: 273 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 2,457 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 10,491 BTUs/sq.ft. No. of people x 200/compt.area

UENTILATION: 491 cu ft/min EXCHANGE TIME: UENT AREA: 175 sq.in. UENT HEIGHT: 90 in. 5.0 min.

UENT AREA: 175 sq.in.

FIRE STARTED DUE TO: I I FRI A Time _____ 1 20 5 0 30 1 15 5 0 40 Fire Origin Thar Failure Dbar Failure

> * calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I) Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable monoammonium phosphate fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-162-3-L OFFICER SR

Barri (Adjoining Co	ers mpts ID and Name)	Mat ID	D∕H	Area-	Tbar	Dbar	%heat rel
02-115-1-LP 02-146-1-L 02-154-1-LW 02-171-1-LW 02-171-1-LW 01-162-3-LP 01-162-5-A 03-140-1-LP 03-162-3-Q	PASSAGE OFFICER SR WR WC & SHR WR WC & SHR WR WC & SHR PASSAGE ARCTIC GEAR LOCKEROFFIC PASSAGE FAN ROOM	W2 W6 W3 W3 F3 F3 C3	1 0 0 0 1 0 0	81.0 126.0 63.0 63.0 81.0 21.5 139.5 18.0 255.0	25 10 10 25 25 25 25 10	40 100 100 60 60 300 300 100	30 5 5 25 25 5 5 5

Compartment: 02-162-4-LW WR WC & SHR

USE: LW Wash room, water closet and shower areas

59 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 532 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

VENTILATION: 133 cu ft/min EXCHANGE TIME: 4.0 min.

UENT HEIGHT: 90 in. UENT AREA: 175 sq.in.

i FIRE STARTED DUE TO: l I FRI A Time Fire Origin i 100 999 0 30

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-162-4-LW WR WC & SHR

Barr: (Adjoining Co	iers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-121-2-LP	PASSAGE	W3	0	78.3	25	60	25
02-152-2-LW	WR WC & SHR	W6	0	61.2	10	100	5
02-162-6-L	OFFICER SR	W3	1	61.2	25	60	25
02-162-6-L	OFFICER SR	ผз	0	<i>7</i> 8.3	25	60	25
01-162-4-LW	WR WC & SHR	F 3	0	23.1	25	300	5
01-162-6-L	CPO BERTHING	F3	0	36.1	25	300	5
03-132-2-A	ELECTRONIC STOREROOM	C3	0	1.4	10	100	5
03-162-2-Q	FAN ROOM	C3	0	57.8	10	100	5
			1				

COMPARTMENT FIRE SAFETY SUMMARY FOR

POLAR ICEBREAKER REPLACEMENT (drawings dated 5/12/1987)

Compartment: 02-162-6-L OFFICER SR

USE: L2 Berthing Space for 2

AREA: 280 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 2,520 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 8,629 BTUs/sq.ft.

No. of people x 200/compt.area

UENTILATION: 504 cu ft/min EXCHANGE TIME: 5.0 min. UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

UENT AREA: 175 sq.in.

FRI FIRE STARTED DUE TO: l I - 1 Time 1 20 5 0 30 1 15 5 0 40 Fire Origin Thar Failure **★** 0 Dbar Failure 5 0

> * calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I) Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable monoammonium phosphate fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-162-6-L OFFICER SR

Barr: (Adjoining Co	iers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-121-2-LP 02-148-2-L 02-162-4-LW 02-162-4-LW 02-178-2-W 01-162-2-LP 01-162-6-L	PASSAGE OFFICER SR WR WC & SHR WR WC & SHR ROLL STABILIZATION TANK PASSAGE CPO BERTHING	พ2 พ6 พ3 พ3 พ6 F3 F3	1 0 1 0 0	65.7 127.8 61.2 78.3 72.0 60.2 104.6	25 10 25 25 10 25 25	40 100 60 60 100 300 300	30 5 25 25 5 5
03-132-2-A 03-162-2-Q	ELECTRONIC STOREROOM FAN ROOM	C3	0	2.8 274.0	10 10	100 100	5 5

Compartment: 02-171-1-LW WR WC & SHR

USE: LW Wash room, water closet and shower areas

AREA: 63 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 567 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 141 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 175 sg.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO: i I FRI A 1 Time 1 100 999 0 30 Fire Origin 1 100 999 0 40 Thar Failure Dbar Failure - 1 35 0 0 * calculated as (100 - % Heat Release)/100 X

* calculated as (100 - % Heat Release)/100 > FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-171-1-LW WR WC & SHR

Barri (Adjoining Co	ers mpts ID and Name)	Mat ID	D∕H	Area-	Tbar	Dbar	%heat rel
02-115-1-LP	PASSAGE	WЗ	0	63.0	25	60	25
02-162-3-L	OFFICER SR	ωз	0	63.0	25	60	25
02-162-3-L	OFFICER SR	WЗ	1	81 .0	25	60	25
02-178-3-W	ROLL STABILIZATION TANK	₩6	0	72 .0	10	100	5
01-162-3-LP	PASSAGE	F3	0	38.7	25	300	5
01-162-5-A	ARCTIC GEAR LOCKEROFFIC	F3	0	24.3	25	300	5
03-140-1-LP	PASSAGE	C3	0	14.0	10	100	5
03-162-3-Q	FAN ROOM	C3	0	49.0	10	100	5

Compartment: 02-178-0-E AUXILIARY GENERATOR ROOM (02 LEVEL)

Zero strength barrier above.

USE: E Machinery areas which are normally occupied.

AREA: 1440 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 12,960 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.0330 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0204

FUEL LOAD: 18,266 BTUs/sq.ft.

Cables, paint, etc., (5gpm x 6m/compartment area)

UENTILATION: 6,480 cu ft/min EXCHANGE TIME:
UENT AREA: 500 sq.in. UENT HEIGHT: 70 in.

UENT AREA: 500 sq.in.

I I FRI A M
I Time FIRE STARTED DUE TO: 1 0 3 85 10 1 5 3 20 40 1 0 * 0 0 Fire Origin Tbar Failure Dbar Failure

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

Assumes a fuel or lube oil line rupture No line rupture as adjacent compartment

DETECTION:

Manual:

Occupied 0% of time in port and 15% of time at sea.

Automatic:

Rate of temperature rise detection system (RR) Photo electric smoke detection system (P) Flame detection system (UV or IR) (F)

FIRST AID FIRE PROTECTION:

- 1 Hand portable carbon dioxide fire extinguisher
- 1 Hand portable dry chemical fire extinguisher (PKP)
- 2 Hand portable Halon fire extinguisher (1301)

AUTOMATED FIRE PROTECTION SYSTEMS:

1 Halon 1301 total flooding system - remotely actuated

MANUAL FIRE FIGHTING EQUIPMENT:

- 1 1 1/2" Seawater hand line with "all purpose nozzle" 50 ft. 2 1 1/2" AFFF (3%) hand line with SFL variable nozzle 50 ft.

Compartment: 02-178-0-E AUXILIARY GENERATOR ROOM (02 LEUEL)

Barri (Adjoining Co	ers	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-162-0-TU 02-178-1-LP 02-178-2-W 02-218-0-QO 01-178-0-W 01-178-1-LP 03-178-2-E	UPTAKE 2 (02 LEVEL) PASSAGE ROLL STABILIZATION TANK HELO EQUIP ROOM & OFFICE ROLL STAB TANK CROSS DUCT PASSAGE AUXILIARY GENERATOR ROOM	₩6 ₩6 ₩6 F3 F3 C0	0 0 0 0 0	288.0 360.0 360.0 288.0 1216.0 64.0	80 10 10 10 25 25	100 100 100 300	5 5 5 5 5 100

COMPARTMENT FIRE SAFETY SUMMARY FOR POLAR ICEBREAKER REPLACEMENT

(drawings dated 5/12/1987)

Compartment: 02-178-1-LP PASSAGE

USE: LP Passageways

AREA: 160 sq.ft. DECK HEIGHT: 9.0 ft. UOLUME: 1,440 cq.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0001

FUEL LOAD: 3,200 BTUs/sq.ft.

Paint, cable insulation laminate on blkhds-no dropped ceiling

UENTILATION: 288 cu ft/min EXCHANGE TIME: 5.0 min.

UENT AREA: 250 sq.in. UENT HEIGHT: 12 in.

FIRE STARTED DUE TO: I I FRI A M Time | 95 20 0 40 | 80 20 0 60 Fire Origin 20 0 60 * 0 0 Thar Failure Dbar Failure 40 * calculated as (100 - % Heat Release)/100 X

FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 30% of time in port and 50% of time at sea.

Automatic:

Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 02-178-1-LP PASSAGE

(Adjoining Compts ID and Name) II		D∕H 	Area- sq.ft.	Tbar	Dbar	%heat rel
02-162-1-TS STAIRCASE WS 02-178-0-E EMERGENCY/HARBOR GENERATO W6 02-178-3-W ROLL STABILIZATION TANK W6 02-218-0-QO HELO EQUIP ROOM & OFFICE W2 01-178-1-LP PASSAGE F3	6 6 2	1 0 0 1	36.0 360.0 360.0 36.0 160.0	5 10 10 25 25	80 100 100 40 300	5 5 5 30 5

Compartment: 02-218-0-QO HELO EQUIP ROOM & OFFICE

USE: QO Offices

AREA: 440 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 3,960 cu.ft.

UNACCEPTABLE LOSS: Code 2 (Major item involved in fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.3300 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0004

FUEL LOAD: 20,000 BTUs/sq.ft.

UENTILATION: 660 cu ft/min EXCHANGE TIME: UENT AREA: 200 sg.in. UENT HEIGHT: 90 in.

UENT AREA: 200 sq.in.

I I FRI A FIRE STARTED DUE TO: Time _____ 1 20 5 0 60 1 15 5 0 40 1 5 * 0 0 Fire Origin Tbar Failure Dhar Failure

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 35% of time at sea.

Automatic:

Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

- 1 Hand portable monoammonium phosphate fire extinguisher
- 2 Hand portable dry chemical fire extinguisher (PKP)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

- 1 1 1/2" Seawater hand line with "all purpose nozzle" 50 ft.
- 1 1 1/2" AFFF (3%) hand line with SFL variable nozzle 100 ft.

Compartment: 02-218-0-QO HELO EQUIP ROOM & OFFICE

Barri (Adjoining Co	ers mpts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
02-178-0-E 02-178-1-LP 02-178-2-W 02-178-3-W 02-228-0-Q 01-218-1-LW 01-218-2-LW 01-218-3-A 01-218-4-A	EMERGENCY/HARBOR GENERATO PASSAGE ROLL STABILIZATION TANK ROLL STABILIZATION TANK HANGAR WC & SHR WC & SHR GEAR LOCKER GEAR LOCKER	W6 W2 W6 W6 W2 F3 F3 F3	0 1 0 0 1 0	288.0 36.0 54.0 18.0 342.0 42.4 47.6 42.4 37.2	10 25 10 10 25 25 25 25	40 100 100 40 300 300 300	5 30 5 30 5 5 5 5
01-218-5-LP 01-218-6-LP 01-218-8-A 01-222-0-LW 01-222-1-L 01-222-2-L 01-225-0-L 03-218-0-Q	PASSAGE PASSAGE SCIENCE BAGGAGE ROOM WC & SHR SCIENTIST SR SCIENTIST SR SCIENTIST SR SCIENTIST SR AUIATION OFFICE	F3 F3 F3 F3 F3 F3 C3	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	60.0 40.0 20.0 27.0 54.1 54.1 15.3 440.0	25 25 25 25 25 25 25 25 25	300 300 300 300 300 300	5 5 5 5 5 5 5 5 5 5 5

Compartment: 02-228-0-Q HANGAR (02 LEVEL)

Zero strength barrier below.

USE: Q Areas usually unoccupied: engineering, electronics, galleys

AREA: 2108 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 18,972 cq.ft.

UNACCEPTABLE LOSS: Code 2 (Major item involved in fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0038

FUEL LOAD:

0 BTUs/sq.ft.

UENTILATION: 3,162 cu ft/min EXCHANGE TIME:

6.0 min.

UENT AREA: sq.in. VENT HEIGHT: 0 in.

FIRE	STARTED	DUE	TO:	: 	i 	I	FRI Time	A 	M
E	ire Orig	gin						0	0
7	bar Fail	lure			1	0		0	0
Ţ	bar Fail	lure		!		0	*	0	0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 25% of time at sea.

Automatic:

Photo electric smoke detection system (P) Flame detection system (UV or IR) (F)

FIRST AID FIRE PROTECTION:

- 2 Hand portable carbon dioxide fire extinguisher
- 5 Hand portable dry chemical fire extinguisher (PKP)
- 2 Hand portable Halon 1211 fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

1 AFFF (3%) sprinkler system - remotely actuated

MANUAL FIRE FIGHTING EQUIPMENT:

- 1 1 1/2" Seawater hand line with "all purpose nozzle" 50 ft.
- 1 1 1/2" AFFF (3%) hand line with SFL variable nozzle 100 ft.

Compartment: 02-228-0-Q HANGAR (02 LEUEL)

Barri (Adjoining Co	ers mpts ID and Name)	Mat ID	D/H	Area- sq.ft.		Dbar	%heat rel
02-218-0-QO	HELO EQUIP ROOM & OFFICE	ω2	1	342.0	25	40	30
01-218-5-LP	PASSAGE	F3	0	84.7	25	300	5
01-218-6-LP	PASSAGE	F3	0	98.1	25	300	5
	SCIENCE BAGGAGE ROOM	F3	0	45.2	25	300	5
01-222-1-L	SCIENTIST SR	F3	0	130.0	25	300	5
01-222-2-L	SCIENTIST SR	F3	0	<i>77</i> . 1	25	300	5
01-225-0-L	SCIENTIST SR	F3	0	101.6	25	300	5
01-239-1-LW	WC & SHR	F3	0	27.0	25	300	5
01-239-2-LW	WC & SHR	F3	0	27.0	25	300	5
01-239-3-L	SCIENTIST SR	F3	0	165.0	25	300	5
	SCIENTIST SR	F3	0	165 .0	25	300	5
01-239-6-LP	PASSAGE	F3	0	128.0	25	300	5
01-239-8-A	FAN ROOM	F3	0	64.0	25	300	5
01-255-0-L	SCIENTIST SR	F3	0	137.5	25	300	5
01-255-1-LW	WC & SHR	F3	0	22.5	25	300	5
01-255-2-L	SCIENTIST SR	F3	0	150.8	25	300	5
01-255-3-L	SCIENTIST SR	F3	0	149.3	25	300	5
01-255-4-LW	WC & SHR	F3	0	25.2	25	300	5
01-255-5-LW	WC & SHR	F3	0	26.7	25	300	5
01-255-6-LP	PASSAGE	F3	0	101.6	25	300	5
01-255-8-A	XFMR FECT HELO	F3	0	25.6	25	300	5
01-261-2-TS	STAIRCASE	F 3	0	38.4	25	300	5
01-271-1-L	SCIENTIST SR	F3	0	100.0	25	300	5
01-271-2-Q	SCIENTIST LIBRARY/CONFERE	F3	0	150.4	25	300	5
01-271-4-L	SCIENTIST SR	F3	0	3 7 .6	25	300	5
01-277-1-LW	WC & SHR	F3	0	8.8		300	5
01-277-3-LW	WC & SHR	F3	0	8.7	25	300	5
01-277-5-L	SCIENTIST SR	F3	0	12.3	25	300	5
03-228-0-Q	HANGAR	FO	0	2088.0	0	0	100

Compartment: 03-105-0-Q RADIO ROOM

USE: Q Areas usually unoccupied: engineering, electronics, galleys

obe. Q Areas usually unoccupied, engineering, electronics, galley

AREA: 1313 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 11,817 cu.ft.

UNACCEPTABLE LOSS: Code 2 (Major item involved in fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.8012

FUEL LOAD: 16,000 BTUs/sq.ft.

UENTILATION: 2,954 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 225 sq.in. UENT HEIGHT: 90 in.

FRI FIRE STARTED DUE TO: I 1 Time 8 0 ŀ Fire Origin 20 20 1 15 0 40 Tbar Failure Dbar Failure * 0 1 5

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 25% of time in port and 100% of time at sea.

Automatic:

Ionization smoke detection system (I)
Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

2 Hand portable Halon fire extinguisher (1301)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 03-105-0-Q RADIO ROOM

Barriers Mat Adjoining Compts ID and Name) ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
03-105-1-A	000011000000000000000000000000000000000	3068.05 368.05 368.05 369.50 369.00 3	25 55 55 55 55 55 55 55 55 55 55 55 55 5	44 44 44 66 68 88 44 00 00 00 00 00 00 00 00 00 00 00 00	1 00 00 00 mm

Compartment: 03-105-1-A ELECTRONIC EQUIPMENT ROOM

USE: Q Areas usually unoccupied: engineering, electronics, galleys

AREA: 1165 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 10,485 cu.ft.

UNACCEPTABLE LOSS: Code 1 (Fire reaches established burning.)
THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0012

FUEL LOAD: 120,000 BTUs/sq.ft.

UENTILATION: 17,475 cu ft/min EXCHANGE TIME: 0.6 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE STARTED DUE TO:	 	I	FRI Time	A	М
Fire Origin	1	10	10	0	20
Tbar Failure	l	5	10	0	40
Dbar Failure	1	0	*	0	0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I)
Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable Halon fire extinguisher (1301)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 03-105-1-A ELECTRONIC EQUIPMENT ROOM

Barri (Adjoining Co	ers mpts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
03-105-0-Q 03-140-1-LP 03-140-1-LP 03-154-1-Q 03-154-1-Q 03-162-3-Q 02-100-5-L 02-116-1-LW 02-122-1-LW 02-122-3-L 02-136-1-LW 02-136-3-L 02-146-1-L 04-108-0-C 04-126-0-Q	RADIO ROOM PASSAGE PASSAGE HAM SHACK HAM SHACK FAN ROOM CHIEF SCIENTIST SR WR WC & SHR WR WC & SHR OFFICER SR WR WC & SHR OFFICER SR OFFICER SR OFFICER SR PILOT HOUSE METEROLOGY LAB & CHART RO	W2 W2 W2 W2 W2 W6 F3 F3 F3 F3 F3	0 0 1 0 0 0 0 0 0	306.0 54.0 123.3 72.0 74.7 99.0 343.3 48.0 58.5 291.4 30.4 192.6 202.6 576.9 48.6	25 25 25 25 25 25 25 25 25 25 25 25 25 2	40 40 40 100 300 300 300 300 300 300	30 30 30 30 35 55 55 55 55 55
· · · ·				_			_

Compartment: 03-106-2-A ELECTRONIC SHOP

USE: Q Areas usually unoccupied: engineering, electronics, galleys

AREA: 675 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 6,075 cq.ft.

UNACCEPTABLE LOSS: Code 2 (Major item involved in fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0012

FUEL LOAD: 1,440,000 BTUs/sq.ft.

Boxes of flammable stores--Fuel load in psf = $20 \times \text{height of deck}$

UENTILATION: 607 cu ft/min EXCHANGE TIME: 10.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

FIRE	STARTED	DUE	TO:	} }	Ι	FRI Time	А	М
F	ire Orio	in.		 I	30	6	0	20
T	bar Fail	ure		1	20	6	0	40
D	bar Fail	ure		i	10	*	0	Û

* calculated as $(100 - % \text{ Heat Release})/100 \times \text{FRI Time or 2 min., whichever is greater.}$

DETECTION:

Manual:

Occupied 15% of time in port and 15% of time at sea.

Automatic:

Ionization smoke detection system (I)
Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable Halon fire extinguisher (1301)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 03-106-2-A ELECTRONIC SHOP

Barr (Adjoining C	iers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
03-105-0-Q 03-111-2-LP 03-132-2-A 02-100-4-L 02-113-2-LW 02-120-4-LW 02-120-6-L 04-108-0-C 04-126-4-A	RADIO ROOM PASSAGE ELECTRONIC STOREROOM CO SR WR WC & SHR WR WC & SHR VISITOR SR PILOT HOUSE GEAR LOCKER	W2 W2 F3 F3 F3 C3	0 1 0 0 0 0 0	58.5 184.5 225.0 312.0 63.0 63.0 237.0 432.6 23.4	25 25 25 25 25 25 25 10	40 40 300 300 300 300 100	30 30 35 55 55 55

Compartment: 03-111-2-LP PASSAGE

Zero strength barrier adjacent.

USE: LP Passageways

AREA: 334 sq.ft. DECK HEIGHT: 9.0 ft. UOLUME: 3,011 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0001

FUEL LOAD: 3,200 BTUs/sq.ft.

Paint, cable insulation laminate on blkhds-no dropped ceiling

UENTILATION: 602 cu ft/min EXCHANGE TIME: 5.0 min.

UENT AREA: 875 sq.in. UENT HEIGHT: 12 in.

DETECTION:

Manual:

Occupied 30% of time in port and 50% of time at sea.

Automatic:

Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable Halon fire extinguisher (1301)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 03-111-2-LP PASSAGE

Barri (Adjoining Co	ers ompts ID and Name)		D∕H	Area- sq.ft.		Dbar	%heat
03-105-0-Q 03-105-0-Q	RADIO ROOM RADIO ROOM	₩2 ₩2	0 0	36 . 0 40 . 5			30 30
03-105-0-Q 03-105-0-Q		₩2 ₩2	Û 1	157.5 162.0			30 30
03-106-2-A 03-117-2-LW	ELECTRONIC SHOP WR & WC	ພ2 ພ3	1 0	184.5 49.5			30 25
03-132-2-A 03-132-2-A	ELECTRONIC STOREROOM ELECTRONIC STOREROOM	W2 W2	0 0	36.0 72.0	25 25		30 3 0
	ELECTRONIC STOREROOM PASSAGE	ພ2 ພo	1 0	193.5 56.7	25 0	1 0	30 100
03-145-0-TU 03-145-2-TS	UPTAKE 1 STAIRCASE	ພິ8 ພິ5	Û	144.0 54.0	30 5	100	5 5
03-145-2-TS 03-157-2-A	STAIRCASE	ພ5 ພ2	1	105.3	5 25	80	5 3 ū
03-162-2-Q 02-100-2-L	FAN ROOM	ω6 F 3	1	36.0 34.0	10 25	100	5 5
02-120-2-L	OFFICER SR	F3 F3	0	19.6 254.0	25 25	300	5 5
02-121-2-LP 02-129-1-Q	PASSAGE PANTRY	F3	ō	6.9	25	300	5
02-132-2-LW 02-136-2-LW	WR WC & SHR WR WC & SHR	F3 F3	0	14.9 5.2	25 25	300	5 5
04-108-0-C 04-126-2-LW	PILOT HOUSE WR & WC	C3	u u	56 0 22.9	10 10	100 100	5 5
04-126-4-A 04-132-2-L	GEAR LOCKER SEA CABIN	C3 C3	0 0	3.1 28.0	10 10	100 100	5 5

Compartment: 03-117-2-LW WR & WC

USE: LW Wash room, water closet and shower areas

AREA: 33 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 297 cq.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 74 cu ft/min EXCHANGE TIME: 4.0 min.

UENT HEIGHT: 90 in. UENT AREA: 150 sq.in.

I I FRI A M FIRE STARTED DUE TO: Time | 100 999 0 30 | 100 999 0 40 Fire Origin Thar Failure Dbar Failure 0 35 ١ 0 * calculated as (100 - % Heat Release)/100 X

FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Feb 02 1989

BARRIER FIRE SAFETY SUMMARY FOR POLAR ICEBREAKER REPLACEMENT (drawings dated 5/12/87)

Compartment: 03-117-2-LW WR & WC

Barrie (Adjoining Cor	ers mpts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
03-105-0-Q 03-105-0-Q 03-105-0-Q 03-111-2-LP 02-100-2-L 02-120-2-L 04-108-0-C	RADIO ROOM RADIO ROOM RADIO ROOM PASSAGE CO CABIN OFFICER SR PILOT HOUSE	W3 W3 W3 F3 F3 C3	1 0 0 0 0 0	49.5 54.0 54.0 49.5 24.0 9.0	25 25 25 25 25 25 10	60 60 60 60 300 300	25 25 25 25 5 5

Compartment: 03-129-1-TS STAIRCASE

USE: TS Staircases

AREA: 40 sq.ft. DECK HEIGHT: 9.0 ft. UOLUME: 360 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0001

FUEL LOAD: 800 BTUs/sq.ft. Paint-no carpet or laminate

UENTILATION: 72 cu ft/min EXCHANGE TIME: 5.0 min.

UENT AREA: 10 sq.in. UENT HEIGHT: 1 in.

I FRI A M FIRE STARTED DUE TO: Time Fire Origin I 100 999 0 30 1 100 999 Thar Failure Ð 40 0 1 90 Dbar Failure 0

 \star calculated as (100 - % Heat Release)/100 \times FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 30% of time in port and 50% of time at sea. Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment:	03-129-1-TS	STAIRCASE
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Barri (Adjoining Co	ers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
03-105-0-Q 03-105-0-Q 03-105-0-Q 03-140-1-LP 02-100-1-LL 02-129-1-Q 02-138-1-T 04-126-0-Q	RADIO ROOM RADIO ROOM RADIO ROOM PASSAGE CO LOUNGE PANTRY DUMB WAITER METEROLOGY LAB & CHART	W5 W5 W5 F3 F3 F3 R0 C3	0 0 0 1 0 0	36.0 90.0 90.0 36.0 1.2 37.3 1.5 40.0	5 5 5 25 25 25 10	80	5555555

Compartment: 03-132-2-A ELECTRONIC STOREROOM

USE: AS Storerooms

AREA: 651 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 5,863 cu.ft.

UNACCEPTABLE LOSS: Code 4 (2 compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 1.0000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0009

FUEL LOAD: 28,000 BTUs/sq.ft.

UENTILATION: 698 cu ft/min EXCHANGE TIME: 8.4 min.

UENT AREA: 2000 sq.in. UENT HEIGHT: 90 in.

calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 25% of time in port and 50% of time at sea.

Automatic:

Ionization smoke detection system (I)
Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 03-132-2-A ELECTRONIC STOREROOM

Barri (Adjoining Co	ers mpts ID and Name)	Mat ID	D/H	Area-	Tbar	Dbar	%heat rel
03-106-2-A 03-111-2-LP 03-111-2-LP 03-111-2-LP 03-162-2-Q 02-120-6-L 02-136-2-LW 02-136-4-L 02-148-2-L 02-152-2-LW 02-162-4-LW 02-162-6-L 04-108-0-C 04-132-2-L	ELECTRONIC SHOP PASSAGE PASSAGE PASSAGE FAN ROOM UISITOR SR WR WC & SHR OFFICER SR OFFICER SR WR WC & SHR WR WC & SHR WR WC & SHR WR WC & SHR FICER SR WR WC & SHR WR WC & SHR OFFICER SR FILOT HOUSE SEA CABIN	W2 W2 W2 W6 F3 F3 F3 F3 F3 C3	0 0 1 0 0 0 0 0	225.0 36.0 72.0 193.5 189.0 100.0 37.2 230.8 207.2 72.1 1.4 2.8 149.8 25.2	25 25 25 25 25 25 25 25 25 25 25 20 10	40 40 40 40 100 300 300 300 300 300 100	30 30 30 55 55 55 55 55

Compartment: 03-140-1-LP PASSAGE

Zero strength barrier adjacent.

USE: LP Passageways

AREA: 386 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 3,482 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0001

FUEL LOAD: 3,200 BTUs/sq.ft.

Paint, cable insulation laminate on blkhds-no dropped ceiling

UENTILATION: 696 cu ft/min EXCHANGE TIME: 5.0 min

UENT AREA: 1250 sq.in. UENT HEIGHT: 12 in.

FIRE STARTED DUE	FO:	1	Ι	FRI Time	A	М
Fire Origin		 I	95	20	0	40
Tbar Failure		1	80	20	0	6 Û
Dbar Failure		1	40	*	0	0
	+ 0210012+64		(100	_ % U.	-+	Palasa)/1

* calculated as (100 - % Heat Release)/100 \times FRI Time or 2 min., whichever is greater

DETECTION:

Manual:

Occupied 30% of time in port and 50% of time at sea.

Automatic:

Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

2 Hand portable Halon fire extinguisher (1301)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 03-140-1-LP PASSAGE

Barra (Adjoining Co	iers ompts ID and Name)			D/H	Area- sq.ft.			%heat rel
03-105-0-Q	RADIO ROOM		W 2	0	27.0	25	40	30
03-105-0-Q	RADIO ROOM		ω 2	1	135.0	25	40	30
03-105-1-A	ELECTRONIC EQUIPMENT	ROOM	W2	0	54.0	25	40	30
03-105-1-A	ELECTRONIC EQUIPMENT			1	123.3	25	40	3 Ū
03-111-2-LP	PASSAGE		ωo	0	56.7	ij	0	100
03-129-1-TS	STAIRCASE		ωs	1	36.0	5	80	5
03-145-0-TU	UPTAKE 1		w 8	0	144.0	80	100	5
03-147-1-A	STOREROOM		W2	0	54.0	25	40	3 0
03-147-1-A	STOREROOM		W2	1	105.3	25	40	30
03-154-1-Q	HAM SHACK		W 2	1	24.2	25	40	3ū
03-157-1-A	STOREROOM		W2	1	40.5	25	40	30
03-162-1-A	GEAR LOCKER		W2	Ü	13.5	25	40	3 Û
03-162-1-A	GEAR LOCKER		W2	1	31.5	25	40	30
03-162-3-Q	FAN ROOM		⊌6	1	144.0	10	100	5
03-165-1-TS	STAIRCASE		ພຣ	1	110.7	5	80	5
02-115-1-LP	PASSAGE		F3	0	241.2	25	300	5
02-129-1-Q	PANTRY		F3	Ū	32 .2	25	300	5
02-136-1-LW	WR WC & SHR		F3	0	13.8	25	300	5
02-136-3-L	OFFICER SR		F3	ā	11.4	25	300	5
02-138-1-T	DUMB WAITER		F3	0	9.2	25	300	5
02-146-1-L	OFFICER SR		F3	ō	14.0	25		5
02-154-1-LW	WR WC & SHR		F3	ō	14.6	25	300	5
02-162-1-TS	STAIRCASE		F3	o o	18.5	25	300	5
02-162-3-L	OFFICER SR		F 3	Õ	18.0	25	300	5
02-171-1-LW	WR WC & SHR		F3	Ö	14.0	25	300	5
U2-171-1-LW	WK WC & SHK		۲J	- -	14.0	25	300	

Compartment: 03-145-2-TS STAIRCASE

USE: TS Staircases

AREA: 70 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 631 cq.ft

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0001

FUEL LOAD: 800 BTUs/sq.ft.

Paint-no carpet or laminate

126 cu ft/min EXCHANGE TIME: sq.in. UENT HEIGHT: 1 in. UENTILATION: 5.0 min.

UENT AREA: 10 sq.in.

i I FIRE STARTED DUE TO: FRI A Time 1 100 999 0 30 Fire Origin Tbar Failure Dbar Failure 1 100 999 0 40 ***** 0 90 0 - 1

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min , whichever is greater.

DETECTION:

Manual:

Occupied 30% of time in port and 50% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment:	03-145-2-TS	STAIRCASE
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Barr: (Adjoining Co	iers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
03-111-2-LP 03-111-2-LP 03-145-0-TU 03-157-2-A 02-145-2-TS	PASSAGE PASSAGE UPTAKE 1 GEAR LOCKER STAIRCASE	W5 W5 W8 W5 F3	0 1 0 0	54.0 105.3 105.3 54.0 70.2	5 5 80 5 25	80 80 100 80 300	5 5 5 5
			2				

Compartment: 03-147-1-A STOREROOM

•

USE: AS Storerooms

AREA: 70 sq.ft. DECK HEIGHT: 9.0 ft. UOLUME: 631 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0009

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 157 cu ft/min EXCHANGE TIME: 4.0 min.

UENT AREA: 10 sq.in. UENT HEIGHT: 1 in.

FIRE STARTED DUE TO: | I FRI A M | Time | | 30 4 0 30 | | Thar Failure | 20 4 0 20 | | Dhar Failure | 10 * 0 0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Barriers (Adjoining Compts ID and Name)		Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
03-140-1-LP 03-140-1-LP 03-145-0-TU 03-157-1-A 02-145-1-A	PASSAGE PASSAGE UPTAKE 1 STOREROOM STOREROOM	W2 W2 W8 W2 F3	0 1 0 0	54.0 105.3 105.3 54.0 70.2	25 25 80 25 25	40 40 100 40 300	30 30 5 30 5

Compartment: 03-154-1-Q HAM SHACK

USE: Q Areas usually unoccupied: engineering, electronics, galleys

AREA: 66 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 597 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.3300 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0012

FUEL LOAD: 16,000 BTUs/sq.ft.

UENTILATION: 119 cu ft/min EXCHANGE TIME: 5.0 min.

UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

* calculated as (100 - % Heat Release)/100 \times FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 25% of time in port and 15% of time at sea.

Automatic:

Ionization smoke detection system (I)
Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 03-154-1-Q HAM SHACK

Barri (Adjoining Co	ers mpts ID and Name)	 Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
03-105-1-A 03-105-1-A 03-140-1-LP 03-162-3-Q 02-146-1-L 02-154-1-LW	ELECTRONIC EQUIPMENT ELECTRONIC EQUIPMENT PASSAGE FAN ROOM OFFICER SR WR WC & SHR		0 0 1 0 0	72.0 74.7 74.7 72.0 29.9 36.5	25 25 25 10 25 25	40 40 40 100 300 300	30 30 30 5 5

Compartment: 03-157-1-A STOREROOM

USE: AS Storerooms

AREA: 27 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 243 cu.ft.

UNACCEPTABLE LOSS: Code 4 (2 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.3300 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0009

FUEL LOAD: 1,440,000 BTUs/sq.ft.

Boxes of flammable stores -- Fuel load in psf = 20 x height of deck

UENTILATION: 24 cu ft/min EXCHANGE TIME: 18.0 min. UENT AREA: 18 sq.in. UENT HEIGHT: 1 in.

UENT AREA: 10 sq.in.

FRI A FIRE STARTED DUE TO: I Time - 1 Fire Origin 1 30 3 0 30 Tbar Failure 1 20 3 0 20

DETECTION:

Manual:

Occupied 5% of time in port and 5% of time at sea.

Automatic:

Rate of temperature rise detection system (RR)

Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 03-157-1-A STOREROOM

Barriers (Adjoining Compts ID and Nam		D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
03-140-1-LP PASSAGE 03-145-0-TU UPTAKE 1 03-147-1-A STOREROOM 03-162-1-A GEAR LOCKER 02-145-1-A STOREROOM 02-162-1-TS STAIRCASE	W2 W8 W2 W6 F3 F3	1 0 0 0 0	40.5 38.7 54.0 54.0 25.8 1.2	25 80 25 10 25 25	40 100 40 100 300 300	30 5 30 5 5 5

Compartment: 03-157-2-A GEAR LOCKER

USE: AG Small Storage Spaces -- Gear Lockers

AREA: 27 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 243 cq.ft.

UNACCEPTABLE LOSS: Code 4 (2 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 1.0000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0009

FUEL LOAD: 1,080,000 BTUs/sq.ft.

Fuel load in psf = $15 \times \text{height of deck}$.

UENTILATION: 24 cu ft/min EXCHANGE TIME: 10.0 min.

UENT AREA: 10 sq.in. UENT HEIGHT: 1 in.

* calculated as (100 - % Heat Release)/100 \times FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 10% of time at sea.

Automatic:

Rate of temperature rise detection system (RR) Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 03-157-2-A GEAR LOCKER

Barr: (Adjoining Co	iers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
03-111-2-LP 03-145-0-TU 03-145-2-TS 03-162-2-Q 02-145-2-TS 02-158-2-A 02-162-2-A	PASSAGE UPTAKE 1 STAIRCASE FAN ROOM STAIRCASE GEAR LOCKER STOREROOM	W2 W8 W5 W6 F3 F3	1 0 0 0 0	40.5 38.7 54.0 54.0 1.8 24.0	25 80 5 10 25 25	40 100 80 100 300 300 300	30 5 5 5 5 5

Compartment: 03-162-1-A GEAR LOCKER

USE: AG Small Storage Spaces -- Gear Lockers

AREA: 21 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 189 cu.ft.

UNACCEPTABLE LOSS: Code 4 (2 compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 1 0000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0009

FUEL LOAD: 1,080,000 BTUs/sq.ft.

Fuel load in psf = $15 \times \text{height of deck}$.

18 cu ft/min EXCHANGE TIME: 10.0 min. sq.in. UENT HEIGHT: 1 in. UENTILATION:

UENT AREA: 10 sq.in.

FIRE STARTED DUE TO: I I FRI A i Time 1 20 3 0 40 Fire Origin 10 Thar Failure 3 0 30 Dbar Failure * O 0 ŀ Ū

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 10% of time at sea.

Automatic:

Rate of temperature rise detection system (RR)

Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 03-162-1-A GEAR LOCKER

Barr (Adjoining C	iers ompts ID and Name)	Mat ID	D∕H	A rea- sq.ft.	Tbar	Dbar	%heat rel
03-140-1-LP	PASSAGE	W2	Ü	13.5	25	40	30
03-140-1-LP	PASSAGE	W2	1	31.5	25	40	30
03-157-1-A	STOREROOM	W6	0	54.0	10	100	5
03-162-0-TU	UPTAKE 2	ผ8	Ð	31.5	80	100	5
03-165-1-TS	STAIRCASE	ພ5	0	40.5	5	80	5
02-162-1-TS	STAIRCASE	F3	0	21.0	25	300	5

Compartment: 03-162-2-Q FAN ROOM

*

USE: QF Fan Rooms

AREA: 489 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 4,408 cu.ft.

UNACCEPTABLE LOSS: Code 3 (Full compartment lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0004

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 2,204 cu ft/min EXCHANGE TIME: 2.0 min.

UENT AREA: 10 sq.in. UENT HEIGHT: 1 in.

FIRE STARTED DUE TO:	1	I	FRI Time	A	М	
Fire Origin	· · · · · · · · · · · · · · · · · · ·	100	999	0	20	
Thar Failure	ı	100	999	0	50	
Dbar Failure	1	30	*	0	0	

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 0% of time at sea.

Automatic:

Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable carbon dioxide fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 03-162-2-Q FAN ROOM

Barr: (Adjoining Co	ers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
03-111-2-LP 03-132-2-A 03-157-2-A 03-162-0-TU 03-178-2-E 02-121-2-LP 02-162-2-A 02-162-4-LW 02-162-6-L	PASSAGE ELECTRONIC STOREROOM GEAR LOCKER UPTAKE 2 AUXILIARY GENERATOR ROOM PASSAGE STOREROOM WR WC & SHR OFFICER SR	W6 W6 W8 W6 F3 F3 F3	1 0 0 0 0 0 0	36.0 189.0 54.0 142.2 36.0 63.2 94.8 57.8 274.0	10 10 10 80 10 25 25 25	100 100 100 100 100 300 300 300 300	5 5 5 5 5 5 5 5

Compartment: 03-162-3-Q FAN ROOM

USE: QF Fan Rooms

AREA: 304 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 2,736 cu.ft.

UNACCEPTABLE LOSS: Code 3 (Full compartment lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0004

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 1,368 cu ft/min EXCHANGE TIME: 2.0 min.

UENT AREA: 10 sq.in. UENT HEIGHT: 1 in.

* calculated as (100 - % Heat Release)/100 > FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 0% of time at sea.

Automatic:

Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

1 Hand portable carbon dioxide fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment:	03-162-3-Q	FAN	ROOM
--------------	------------	-----	------

Barra (Adjoining Co	ers	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
03-105-1-A	ELECTRONIC EQUIP	MENT ROOM W6	0	99.0	10	100	5 5 5 5 5
03-140-1-LP	PASSAGE	W6	1	144.0	10	100	
03-154-1-Q	HAM SHACK	W6	0	72.0	10	100	
02-162-3-L	OFFICER SR	F3	0	255.0	25	300	
02-171-1-LW	WR WC & SHR	F3	0	49.0	25	300	

Compartment: 03-165-1-TS STAIRCASE

USE: TS Staircases

AREA: 55 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 497 cq.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0001

FUEL LOAD: 800 BTUs/sq.ft. Paint-no carpet or laminate

UENTILATION: 99 cu ft/min EXCHANGE TIME: UENT AREA: 10 sq.in. UENT HEIGHT: 1 in. 5.0 min.

FIRE STARTED DUE TO: l I FRI A Time Fire Origin 1 100 999 0 30 Thar Failure l 100 999 0 40 Dbar Failure 90

> * calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 30% of time in port and 50% of time at sea. Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment:	03-165-1-TS	STAIRCASE					
Barr: (Adjoining Co	iers ompts ID and Name)	Ma: ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
03-140-1-LP	PASSAGE	ω5	1	110.7	5	80	5
03-162-0-TU 03-162-1-A	UPTAKE 2 GEAR LOCKER	ພ 8 ພ5	0 0	110.7 40.5	80 5	100 80	5 5
02-162-1-TS	STAIRCASE	F 3	1	55.3	25	300	5
			2				

Compartment: 03-178-2-E AUXILIARY GENERATOR ROOM (03 LEVEL)
Zero strength barrier below.

USE: E Machinery areas which are normally occupied.

AREA: 800 sg.ft. DECK HEIGHT: 9.0 ft. VOLUME: 7,200 cu.ft

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.0330 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0204

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 3,600 cu ft/min EXCHANGE TIME: 2.0 min.

UENT AREA: 10 sq.in. UENT HEIGHT: 1 in.

Fire Origin | 30 3 85 10
Thar Failure | 20 3 20 40
Dbar Failure | 10 * 0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 25% of time in port and 50% of time at sea.

Automatic:

FIRST AID FIRE PROTECTION:

AUTOMATED FIRE PROTECTION SYSTEMS:

1 Halon 1301 total flooding system - remotely actuated

MANUAL FIRE FIGHTING EQUIPMENT:

- 1 1 1/2" Seawater hand line with "all purpose nozzle" 50 ft.
- 2 1 1/2" AFFF (3%) hand line with SFL variable nozzle 50 ft.

Compartment:	03-178-2-E AUXILI	ARY GE	NERAT	OR ROOM	(03 F)	EUEL)	
Barr (Adjoining C	iers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
03-162-0-TU 03-162-2-Q 03-218-0-Q	UPTAKE 2 (03 LEVEL) FAN ROOM AVIATION OFFICE	ພຣ ພຣ	0 0 0	144.0 36.0 180.0	80 10 10	100 100	5 5 5
02-178-0-E 02-178-2-W	AUXILIARY GENERATOR ROO ROLL STABILIZATION TANK		0	640.0 160.0	0 25	300	100 5
			0				

Compartment: 03-218-0-Q AVIATION OFFICE

USE: QO Offices

AREA: 460 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 4,140 ca.ft.

UNACCEPTABLE LOSS: Code 3 (Full compartment lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0004

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 828 cu ft/min EXCHANGE TIME: 5.0 min.

UENT AREA: 200 sq.in. UENT HEIGHT: 90 in.

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 35% of time at sea.

Automatic:

Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

2 Hand portable monoammonium phosphate fire extinguisher

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Feb 03 1389

BARRIER FIRE SAFETY SUMMARY FOR POLAR ICEBREAKER REPLACEMENT (drawings dated 5/12/87)

Compartment:	03-218-0-Q	NOITAIVA	OFF	ICE				
Barri (Adjoining Co	ers mpts ID and Name)		Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
03-178-2-E 03-228-0-Q 02-218-0-Q0	AUXILIARY GENERATO HANGAR (03 LEVEL) HELO EQUIP ROOM &		₩6 ₩2 F 3	0 1 0	180.0 360.0 440.0	10 25 25	100 40 300	5 30 5

Compartment: 03-228-0-Q HANGAR (03 LEVEL)

Zero strength barrier above.

USE: Q Areas usually unoccupied: engineering, electronics, galleys

AREA: 2088 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 18,792 cq.ft.

UNACCEPTABLE LOSS: Code 2 (Major item involved in fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0038

FUEL LOAD: 0 BTUs/sq.ft.

UENTILATION: 3,132 cu ft/min EXCHANGE TIME: 6.0 min.
UENT AREA: sq.in. UENT HEIGHT: 0 in.

UENT AREA: sq.in.

FIRE STARTED DUE TO: l I FRI A Time 0 1 Fire Origin 1 0 Thar Failure O 0 * 0

FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 25% of time at sea.

Automatic:

Photo electric smoke detection system (P) Flame detection system (UV or IR) (F)

FIRST AID FIRE PROTECTION:

AUTOMATED FIRE PROTECTION SYSTEMS:

1 AFFF (3%) sprinkler system - remotely actuated

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment:	03-228-0-Q	HANGAR	(03 L	EVEL)			
Barr (Adjoining C	iers ompts ID and Name)		Mat ID		Area- sq.ft.	Tbar	Dbar	%heat rel
03-218-0-Q 02-228-0-Q	AUIATION OFFICE HANGAR		₩2 C0	0	360.0 2088.0	25 0	40 0	30 100
				 n				

Compartment: 04-108-0-C PILOT HOUSE

USE: C Ship and fire control operating areas normally occupied.

AREA: 1706 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 15,359 cu.ft.

UNACCEPTABLE LOSS: Code 3 (Full compartment lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.0330 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0012

FUEL LOAD: 12,000 BTUs/sq.ft.

4.7 min.

UENTILATION: 3,267 cu ft/min EXCHANGE TIME:
UENT AREA: 300 sq.in. UENT HEIGHT: 90 in. UENT AREA: 300 sq.in.

FIRE STARTED DUE TO: I FRI l Time l 20 12 0 90 Fire Origin 12 0 70 Thar Failure 1 55 1 20 Dbar Failure 0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 30% of time in port and 100% of time at sea.

Automatic:

Rate of temperature rise detection system (RR) Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

2 Hand portable Halon fire extinguisher (1301)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 04-108-0-C PILOT HOUSE

Barri (Adjoining Co	ers mpts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
04-126-0-Q	METEROLOGY LAB & CHART RO	W2	1	121.5	25	40	30
04-126-0-Q	METEROLOGY LAB & CHART RO	W 2	3	374.4	25	40	30
04-126-2-LW	WR & WC	WЗ	0	49.5	25	60	25
04-126-4-A	GEAR LOCKER	W2	0	36.9	25	40	3 û
04-126-4-A	GEAR LOCKER	W2	1	58.5	25	40	3.0
04-132-2-L	SEA CABIN	W 2	0	63.0	25	40	3 û
03-105-0-Q	RADIO ROOM	F 3	0	681.0	25	300	5
03-105-1-A	ELECTRONIC EQUIPMENT ROOM	F3	Û	5 76.9	25	300	5
03-106-2-A	ELECTRONIC SHOP	F3	0	432.6	25	300	5
03-111-2-LP	PASSAGE	F3	0	56.0	25	300	5
03-117-2-LW	WR & WC	F3	0	33.0	25	300	5
03-132-2-A	ELECTRONIC STOREROOM	F3	0	149.8	25	300	5

Compartment: 04-126-0-Q METEROLOGY LAB & CHART ROOM

USE: QO Offices

AREA: 681 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 6,135 cu.ft.

UNACCEPTABLE LOSS: Code 3 (Full compartment lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.0330 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0004

FUEL LOAD: 20,000 BTUs/sq.ft.

UENTILATION: 2,045 cq ft/min EXCHANGE TIME: 3.0 min. UENT AREA: 225 sq.in. UENT HEIGHT: 90 in.

I I FRI A M I Time FIRE STARTED DUE TO: 1 20 5 0 60 1 15 5 0 40 1 5 * 0 0 Fire Origin Thar Failure

FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 35% of time at sea.

Automatic:

Photo electric smoke detection system (P)

FIRST AID FIRE PROTECTION:

2 Hand portable Halon fire extinguisher (1301)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 04-126-0-Q	METEROLOGY	LAB	ŝ	CHART	ROOM
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Barri (Adjoining Co	ers ompts ID and Name)	Mat ID	D/H 	Area- sq.ft.	Tbar	Dbar	%heat rel
04-108-0-C	PILOT HOUSE	₩2	1 3	121.5	25	40	30
04-108-0-C	PILOT HOUSE	₩2		374.4	25	40	30
04-126-2-LW	WR & WC	⊌3	1	58.5	25	60	25
04-132-2-L	SEA CABIN	⊌2	1	63.0	2 5	40	30
03-105-0-Q	RADIO ROOM ELECTRONIC EQUIPMENT ROOM STAIRCASE	F3	0	473.0	25	პს0	5
03-105-1-A		F3	0	48.6	25	300	5
03-129-1-TS		F3	1	40.0	25	300	5

Compartment: 04-126-2-LW WR & WC

USE: LW Wash room, water closet and shower areas

AREA: 35 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 323 cu.ft.

UNACCEPTABLE LOSS: Code 8 (All compartments of one type lost to fire)

THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0002

FUEL LOAD: 4,000 BTUs/sq.ft.

UENTILATION: 80 cu ft/min EXCHANGE TIME: 4.0 min. UENT AREA: 175 sq.in. UENT HEIGHT: 90 in.

I FRI A M FIRE STARTED DUE TO: Time 1 100 999 0 30 Fire Origin 1 100 999 0 40 Tbar Failure

DETECTION:

Manual:

Occupied 5% of time in port and 15% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment:	04-126-2-LW	WR & WC
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Barra (Adjoining Co	ers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
04-108-0-C 04-126-0-Q 04-126-4-A 04-132-2-L 03-105-0-Q 03-111-2-LP	PILOT HOUSE METEROLOGY LAB & CHART R GEAR LOCKER SEA CABIN RADIO ROOM PASSAGE	W3 O W3 W3 W3 F3 F3	0 1 0 0 0	49.5 58.5 58.5 49.5 13.0 22.9	25 25 25 25 25 25	60 60 60 300 300	25 25 25 25 5 5

Compartment: 04-126-4-A GEAR LOCKER

USE: AG Small Storage Spaces -- Gear Lockers

AREA: 26 sq.ft. DECK HEIGHT: 9.0 ft. VOLUME: 238 cu.ft.

UNACCEPTABLE LOSS: Code 4 (2 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 1.0000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0009

FUEL LOAD: 1,080,000 BTUs/sq.ft.

Fuel load in psf = $15 \times \text{height}$ of deck

UENTILATION: 23 cu ft/min EXCHANGE TIME: 10.0 min.

UENT AREA: 10 sq.in. UENT HEIGHT: 1 in.

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 5% of time in port and 10% of time at sea.

Automatic:

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Feb 02 1989

BARRIER FIRE SAFETY SUMMARY FOR POLAR ICEBREAKER REPLACEMENT (drawings dated 5/12/87)

Compartment:	04-126-4-A	GEAR LOCKER
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Barr: (Adjoining Co	iers ompts ID and Name)	Mat ID	D∕H	Area- sq.ft.	Tbar	Dbar	%heat rel
04-108-0-C 04-108-0-C 04-126-2-LW 04-132-2-L 03-106-2-A 03-111-2-LP	PILOT HOUSE PILOT HOUSE WR & WC SEA CABIN ELECTRONIC SHOP PASSAGE	W2 W2 W3 W2 F3 F3	0 1 0 0 0	36.9 58.5 58.5 36.9 23.4 3.1	25 25 25 25 25 25	40 40 60 40 300 300	30 30 25 30 5

Compartment: 04-132-2-L SEA CABIN

USE: L1 Berthing Space for 1

AREA: 129 sq.ft. DECK HEIGHT: 9.0 ft. UOLUME: 1,165 cu.ft.

UNACCEPTABLE LOSS: Code 7 (5 compartments of one type lost to fire) THRESHOLD FREQUENCY OF UNACCEPTABLE LOSS: 0.1000 per ship year

FREQUENCY OF ESTABLISHED BURNING: 0.0008

FUEL LOAD: 19,047 BTUs/sq.ft.

No. of people x 200/compt.area

UENTILATION: 233 cu ft/min EXCHANGE TIME: UENT AREA: 175 sq.in. UENT HEIGHT: 90 in. 5.0 min.

UENT AREA: 175 sq.in.

FIRE STARTED DUE TO: I FRI A 1 Time 1 20 5 0 30 Fire Origin 1 5 0 40 Thar Failure 15 Dbar Failure 1 5 * ٥ 0

* calculated as (100 - % Heat Release)/100 X FRI Time or 2 min., whichever is greater.

DETECTION:

Manual:

Occupied 0% of time in port and 10% of time at sea.

Automatic:

Ionization smoke detection system (I) Photo electric smoke detection system (P)

AUTOMATED FIRE PROTECTION SYSTEMS:

MANUAL FIRE FIGHTING EQUIPMENT:

Compartment: 04-132-2-L SEA CABIN

Barri (Adjoining Co	ers ompts ID and Name)	Mat ID	D/H	Area- sq.ft.	Tbar	Dbar	%heat rel
04-108-0-C 04-126-0-Q 04-126-2-LW 04-126-4-A 03-105-0-Q 03-111-2-LP 03-132-2-A	PILOT HOUSE METEROLOGY LAB & CHART RO WR & WC GEAR LOCKER RADIO ROOM PASSAGE ELECTRONIC STOREROOM	W2 W3 W2 F3 F3	0 1 0 0 0	63.0 63.0 49.5 36.9 14.0 28.0	25 25 25 25 25 25 25	40 40 60 40 300 300	30 30 25 30 5 5